NEW EQUIPMENT DIGEST

A Penton Publication

April, 1955

Volume 20—Number 4

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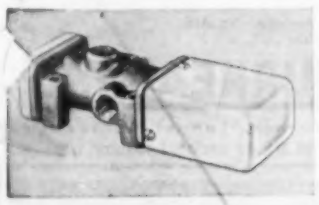
CHECK AND PASS ALONG

	NAME	See No.

Use Inquiry Slips—Pages 8 and 112

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

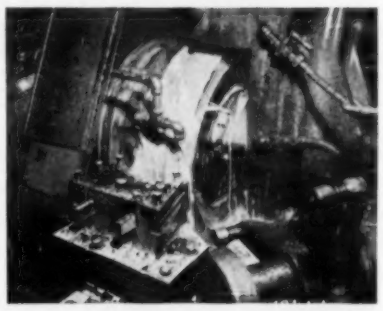
THREE-WAY AIR VALVE
manual and electrical controls



Heavy duty Bel-Air valve, now available in a three-way series, is offered in ¼, ⅜ and ½-in. models for manual or electrical control. Solenoid-controlled, pilot - operated models have a choice of 115, 230 or 440 v operation, with the same solenoid used on all sizes. Mechanically-actuated models include hand lever, clevis, roller, foot pedal and treadle types. All actuators are interchangeable between valves of a similar size. Removable torsion spring in lever bracket returns the valve when pressure is released. Valve bodies are cast bronze with a series of inserted chrome plated liners. Made by **Bellows Co.**, 230 W. Market St., Akron 9, O.

▲ For more details circle **NED-1 D5** on enclosed inquiry slip ▲

STEEL-MACHINING CARBIDE
for rough and finishing operations



Designed for wide range of steel machining operations, Wessonmetal Grade 26 cemented carbide will handle rough and semifinished light-medium and heavy-duty cutting. Increased tool life is reported in 80 percent of the applications over the entire steel machining range. Optimum performance extends over range of 100 to 400 sfm cutting speeds. It is offered in wide range of tool and bit sizes. Distributed by **Wesson Co.**, 1224 Woodward Heights Blvd., Ferndale 20, Mich.

▲ For more details circle **NED-2 D5** on enclosed inquiry slip ▲

PRECISION MEASURING MAGNIFIER
is low-cost pocket-size instrument

Precision inspection and measurement is possible with this Vest Pocket comparator which sells for $12.50. Glass reticle has pigment-filled etched pattern for ease of reading. Thickness comparison scale consists of series of parallel lines 0.002 to 0.007-in. apart for checking thickness of sheet materials such as metal, paper or plastic. Linear scale is in both millimeters and decimal inches, latter being 0.5-in. long with 0.005-in. graduations and former, 10-mm long and subdivided into 0.2-mm units. Hole diameter patterns are given in fractions from 1/64 to 1/16-in. and in decimals from 0.005 to 0.05-in. Reticle and object to be measured are magnified six times. Light is admitted to object and reticle through transparent lucite walls. Distributed by **Edmund Scientific Corp.**, 180 E. Gloucester Pike, Barrington 3, N. J.

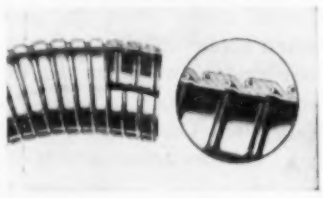
▲ For more details circle **NED-3 D5** on enclosed inquiry slip ▲

HOLE BORING TOOL
is short for extreme accuracy

Short-neck design of series 500 boring tools assures extreme accuracy in machining short precision holes. These rigid tools are offered in high speed steel and carbide tipped in 25 different sizes. Style A is for through-boring and style B, for bottoming. Made by **Bokum Tool Co.**, Dept. T, 14775 Wildemere Ave., Detroit 38, Mich.

▲ For more details circle **NED-4 D5** on enclosed inquiry slip ▲

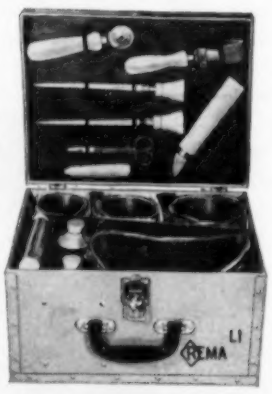
ABRASION-RESISTANT METAL HOSE
for conveying many bulk materials



Materials having abrasive and corrosive characteristics such as grain, chemicals, ashes and cement can be conveyed through type U-100-L standard and U-120-L heavy duty flexible metal hose. Both types are furnished with 0.012-in. stainless steel strip liner unless a carbon steel liner will satisfy and is specified. Angle iron, standard or special flanges and pipe nipples can be furnished. Standard sizes are 3, 4, 5, 6, 7 and 8-in. ID. Made by **Universal Metal Hose Co.**, Dept. NED, 2137 S. Kedzie Ave., Chicago 23, Ill.

▲ For more details circle **NED-5 D5** on enclosed inquiry slip ▲

BELT & CABLE REPAIR KIT
extends life of conveyor belting



Designed to repair rubber conveyor belts and rubber covered electrical cable, REMA repair material is self - vulcanizing. Abrasive resistant cover stock and rubber filler enables repairs to be made without application of heat. Illustrated kit contains all tools and materials necessary to make repairs. Belt or cable can be restored to service immediately. Offered by **Flexible Steel Lacing Co.**, 4607 Lexington St., Chicago 44, Ill.

▲ For more details circle **NED-6 D5** on enclosed inquiry slip ▲

MIDGET RELAY
dc type has heavy duty contacts

Heavy duty contacts are now available on series 595 direct current telephone type relay. Unit can withstand inrush current of 50 amp at 28 v dc and is rated for continuous operation at 15 amp, 28 v dc. Standard 3-amp auxiliary contacts can also be supplied. Unit is 1¼ in. long and weighs 2½ oz. It is available as an open type relay or hermetically sealed to specification. Made by **Guardian Electric Mfg. Co.**, 1621-I W. Walnut St., Chicago 12, Ill.

▲ For more details circle **NED-7 D5** on enclosed inquiry slip ▲

TURNBUCKLE PROVING RING
shows tensile, compression loads

In addition to reading tensile or compression loads, this 0-300 lb capacity turnbuckle type proving ring can be used to apply tensile load by simply taking up on turnbuckle forks at opposite sides. Proving ring has dial graduated in angular degrees, with translation of readings into pounds by separate calibration reference chart. Unit is 7⅛ in. long from center to center of holes in turnbuckle forks. Dial diameter is 2 in. and increment marks are in 2-degree steps. Accuracy is within ±1 per cent of indicated reading. For compressive use, forks are unscrewed and load is applied against flats of bosses. Made by **W. C. Dillon & Co.**, Dept. NED, 14620 Keswick St., Van Nuys, Calif.

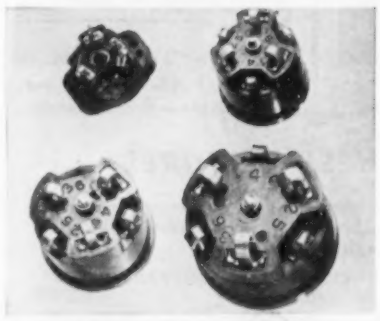
▲ For more details circle **NED-8 D5** on enclosed inquiry slip ▲

FLYWHEEL MAGNETO
for lightweight gasoline engines

Aircraft type high tension coil completely encased in a molded unit is a feature of this flywheel magneto which makes it resistant to vibration and moisture. Developed for two-cycle engines made by Power Products Corp., it has flexible design features which will permit its installation on lightweight gasoline engines on chain saws, garden tractors and power lawnmowers. A cover protects cam and breaker points from dirt and dust. Made by **Bendix Aviation Corp.**, Scintilla Div., P. O. Box 188, Sidney, N. Y.

▲ For more details circle **NED-9 D5** on enclosed inquiry slip ▲

MOTOR OVERHEAT PROTECTORS
for 3-phase Y-connected types



Designed for original equipment installation by motor manufacturers, line of automatic - reset Klixon inherent overheat motor protectors includes four sizes for three-phase Y-connected motors from fractional through 7½ hp for voltages up to 600 v. Protector consists of molded phenolic base assembly containing three heaters and a snap-acting thermal disk with three contacts. One heater is in series with each phase of motor and one contact of the disk, which becomes the neutral point of the motor. When disk snaps open, connection is broken to the neutral point to interrupt all three winding circuits. Made by **Metals & Controls Corp.**, Spencer Thermostat Div., 1500 Forest St., Attleboro, Mass.

▲ For more details circle **NED-10 D5** on enclosed inquiry slip ▲

with PLASTIC ROCK!

Trowel a smooth, tough, malleable surfacing right over your old concrete or wood floor.

Plastic Rock comes complete, packed in barrels; nothing more to buy; no "formula" to confuse. Simply mix and trowel over old floor; adheres to concrete, wood, steel; average depth ½"; perfect feather edge; hundreds of tons rolling on steel wheels only improve it. Spark-proof, skid-safe wet or dry; dustless, noiseless; cannot splinter, crumble, curl or loosen. Used by largest industries, institutions and railroads.

ASK FOR REPORT 220-N-4

UNITED LABORATORIES, INC.
16804 Euclid Avenue, Cleveland 12, Ohio
FLOORING • ROOFING • SPECIAL PAINTS
Field Representatives Coast to Coast

▲ For more details circle **NED-11 D5** on enclosed inquiry slip ▲

We'll Get Action

Whenever you send an inquiry to us or to a manufacturer of a product advertised or described in NEW EQUIPMENT DIGEST, you should get prompt action. Infrequently we hear from a reader that his request for information on a NED-announced product has not been answered. We welcome this sort of letter because we can do something about it. Inquiries received by our Reader Service Department are sent immediately to the proper manufacturer, and as a regular recipient of NED, you are entitled to a prompt answer to your inquiry. If you don't get it, just drop me a note. We'll help you get the desired information.

A. N. Gregg
EDITOR

NEW EQUIPMENT DIGEST
722 Penton Building
Cleveland 13, Ohio

Here's why a LE TOURNEAU HOIST can safely raise or lower a Rated Load *this Fraction of an Inch!*

Long-life LeTourneau A.C. electric motors give you absolute control of any rated load, because instantaneous torque starts your load immediately when power is applied. Mechanical-electrical, three-phase brake stops . . . *holds* rated loads. Regenerative electrical braking controls lowering. Each braking system sustains 1½ times rated load. Heavy-duty helical gears. All welded-steel construction. Short shafts for safety. Optional limit switches. All type mountings available.

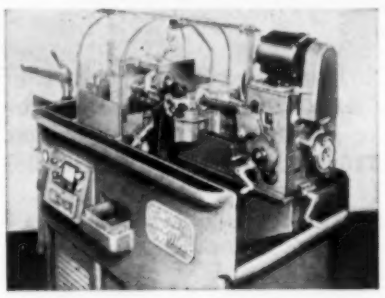
3 Tons to 30 Tons . . . and UP

Write today for Bulletin No. 618 on LeTourneau Hoists . . .

R. G. LETOURNEAU INC
2564 South MacArthur, Longview, Texas

▲ For more details circle **NED-16 D5** on enclosed inquiry slip ▲

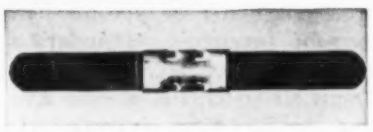
AUTOMATIC SCREW MACHINE slideable turret increases range



Capable of machining all types of bar stock up to 0.75-in. OD, Detroit Screwmatic single spindle, bar automatic screw machine is designed for production of short, medium and long parts. Slideable turret unit increases work length capacity by several inches. Turret unit can be positioned away from the spindle without crowding toward tools. Three-position crank permits long, medium and short work to be precision machined with equal efficiency. Made by **Gear Grinding Machine Co.**, 3903 Christopher Ave., Detroit 11, Mich.

▲ For more details circle **NED-13 D5** on enclosed inquiry slip ▲

COPPER-COATED STRAP SEALS assure tight slip-proof joint



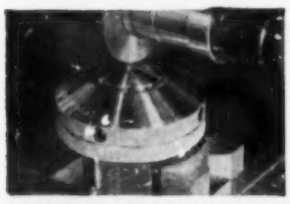
Made of electro copper - coated strip steel, these Allegheny Seals provide advantages of copper with the strength of steel. They are furnished in the same gage as the strapping. When applied with Allegheny Sealers, seals are crimped with Lock-Seal-Joint which provides tight closure that cannot slip. Samples available from **Allegheny Steel Band Co.**, Dept. N, Box 716, Pittsburgh 30, Pa.

▲ For more details circle **NED-14 D5** on enclosed inquiry slip ▲

Save up to 90% ...set-up time with the NEW HANCOCK

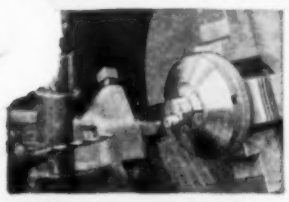
Ball-Bearing Chukollet

PAT. PENDING



Part with irregular outside dimension is easily held in CHUKOLLET. Internal stop controls depth to .0005 inch.

...Eliminates special jigs or fixtures for many of your intricate jobs!



CHUKOLLET set off center in 4-jaw chuck eliminating special fixture. Will machine consistently accurate eccentric parts.

Hancock ball bearing actuated CHUKOLLET is simple to set up and use and more versatile than any other collet chuck. Makes standard 5C collets useful on any machine in the shop.

Model 5C **$75.00**

Hancock CHUKOLLET used for milling operation on soft threaded parts.

CHUKOLLET can be easily used at any angle or compound angle.

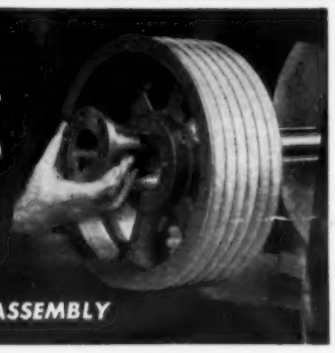
CHECK THESE FEATURES:

- Cannot dislocate workpiece as collet *is not* drawn in while closing even though workpiece diameters may vary several thousandths.
- Guaranteed to positively locate workpiece axially and radially to within .0005 in.
- Takes less than a quarter turn to tighten or loosen workpiece.
- Holds soft-threaded and thin-walled cylindrical parts without damage for machining.
- Made of Chrome-Moly Steel, hardened and precision ground inside and out.
- Felt-sealed to keep dust and chips out.
- Supplied complete with adjustable stop and pin-spanner key.

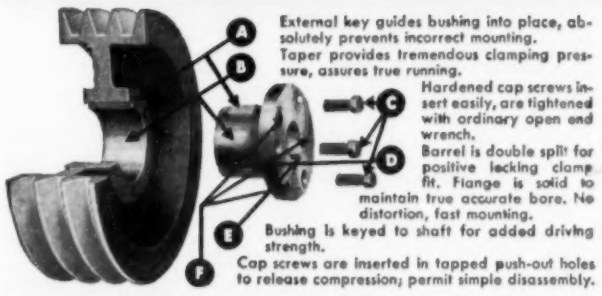
HANCOCK MFG. CO., Dept. ND, Santa Clara, Calif.

▲ For more details circle **NED-12 D5** on enclosed inquiry slip ▲

Browning Bushings



FOR SIMPLIFIED ASSEMBLY

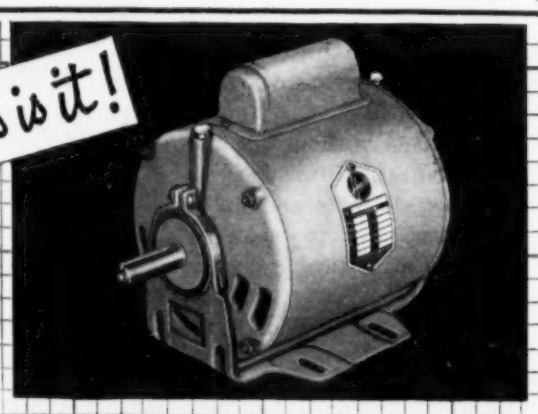


Browning's split taper compression bushing mounts and removes with ease, yet won't loosen during the most punishing usage. Made of "unbreakable" malleable iron, practically indestructible. Interchangeable in Browning sheaves, sprockets, paper pulleys and couplings. Your *Browning distributor* stocks thousands of size and bore combinations. Ask or write for *Catalog GC101.*

Browning MANUFACTURING COMPANY
MAYSVILLE, KENTUCKY

▲ For more details circle **NED-17 D5** on enclosed inquiry slip ▲

This is it!



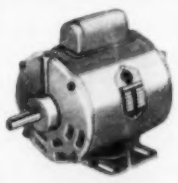
Newest Motor on the Market!

- Available from ¼ H.P. to 1 H.P.
- Compact—more power per pound
- Higher overload capacities
- Newest "Mylar"* insulation in stator slots
- New trouble-free centrifugal starting switch (proven through 6 million cycles—ten times normal life—under all types of operating conditions)
- Improved ventilating design—permits complete air flow over windings, for maximum motor cooling
- Rugged 11-gauge heavy steel frame—provides rigidity and alignment equal to heaviest in industry
- Exclusive ribbed base—resists bending, provides widest contact points for maximum rigidity
- Conforms to NEMA standards for "56" Frame motors.

*Du Pont polyester film

HOOVER HY-DRIVE

A completely new fractional horsepower motor



Rigid or resilient or face mount—split-phase, capacitor-start or polyphase.

Dripproof or totally enclosed—suitable for vertical or horizontal installation

Special mechanical or electrical details to your order.

SEND FOR FULL DETAILS
The Hoover Company
Electric Motor Division
202 Brook Avenue, North Plainfield, N. J.

▲ For more details circle **NED-15 D5** on enclosed inquiry slip ▲

STORE RECORDS FOR FAST, EASY REFERENCE

NOW AT NEW LOW PRICES

No matter how you look at it, you can't afford fragile cardboard files now that Diebold steel files are available at the same prices or less! Safe-T-Stak steel files also double storage capacity . . . save erection and replacement costs . . . protect records from vermin, dampness and dust.

Send for illustrated folder and prices . . . today.

Diebold® INCORPORATED
1008 Mulberry Rd., S. E.
CANTON 2, OHIO

N-166-DI

▲ For more details circle NED-18 D5 on enclosed inquiry slip ▲

▲ For more details circle NED-19 D5 on enclosed inquiry slip ▲

NOW...ONE ADHESIVE INSTEAD OF SEVERAL...

for:

- Laminating
- Tube Winding
- Case Sealing
- Spot and Straight Line Carton Gluing
- Seam Sealing of Bags and Boxes

Up to now you may have needed several types of adhesives for these jobs. Now you need just one—FULLER'S 545. FULLER'S 545 is a water-resistant resin adhesive designed for a *variety* of uses. It's versatile, and it's low in cost!

SEND FOR FREE FOLDER containing technical information and tips on the uses of Fuller's 545 in your factory.

fuller's 545 ADHESIVE

H. B. FULLER COMPANY

General Offices: 181 W. Kellogg Blvd., St. Paul 2, Minnesota

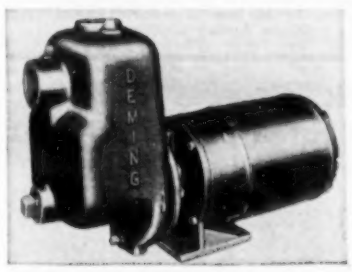
▲ For more details circle NED-20 D5 on enclosed inquiry slip ▲

ELECTRIC TEST KIT
for electronic circuits and parts

This Knight VOM testing kit has easy-to-read scales for all functions and ranges. The 50 microampere meter sensitivity with 20,000 volt/ohm input resistance on direct current results in low circuit loading which contributes to accurate measurements. Both function and range are selected with single switch. Six ranges are available to read 0 to 5000 v dc; six for 0 to 5000 v ac; three resistance ranges read 0 to 200 megohms; and four current ranges cover 0 to 10 amperes dc. Four-foot test leads are furnished with this $26.50 instrument. Made by **Allied Radio Corp.**, Dept. NED, 100 N. Western Ave., Chicago 80, Ill.

▲ For more details circle NED-21 D5 on enclosed inquiry slip ▲

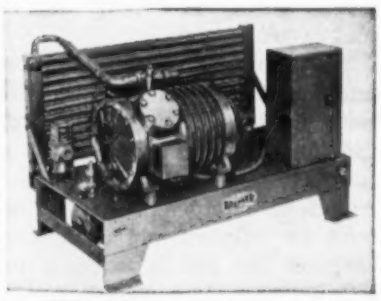
SELF-PRIMING PUMP
for general industrial applications



Designed for irrigation, industrial use, air conditioning systems and similar purposes, this self-priming Motor-Mount pump delivers 110 gpm at pressures up to 127-ft head. Power is supplied by a 3500-rpm motor in sizes from ½ to 5 hp. Features are stainless steel shaft, bronze semiopen impeller and rotary type shaft seal. Made by **Deming Co.**, Dept. NE, Salem, O.

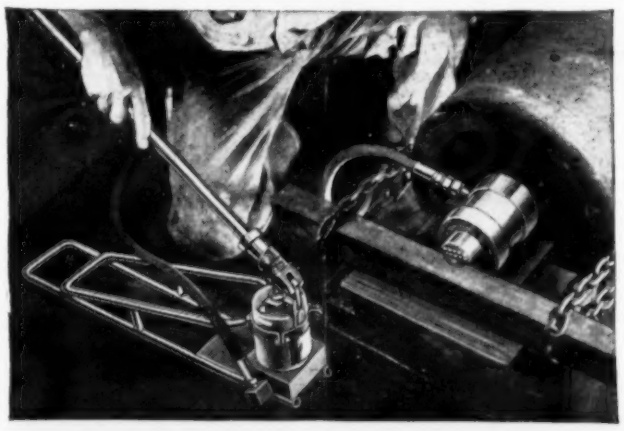
▲ For more details circle NED-22 D5 on enclosed inquiry slip ▲

CONDENSING UNITS
air and water cooled



Semihermetic condensing units in new 1½, 2 and 3-hp models expands Brunner-Metic line to ¼ to 3 hp in air-cooled models and ⅓ to 3 hp in water-cooled models. Also added to line are capillary tube units from ¼ to 1 hp, ½ to 3-hp air-and-water-cooled units and ½ to 3-hp truck units. Made by **Brunner Mfg. Co.**, 1821 Broad St., Utica 1, N. Y.

▲ For more details circle NED-23 D5 on enclosed inquiry slip ▲



For quickly and easily pulling bearings, bushings, and liners on electric motors

. . . use the Duff-Norton remote controlled "Lo-Hite" Hydraulic Jack with detached independent pump. The ram when closed is only 4½ inches high, yet can safely move 30 tons 2 inches in any direction. The independent pumping mechanism is connected to the jacking ram by an 8-foot flexible rubber hose. Safe, sturdy, precision-built for trouble-free service, the "Lo-Hite" is winning new users everywhere.

Ask your local distributor for the "Lo-Hite" (No. 30-H-4.5), or write the world's oldest and largest manufacturer of lifting jacks for Bulletin AD-32-N and name of the nearest distributor—the Duff-Norton Company, P. O. Box 1889, Pittsburgh 30, Pa. Canadian plant—Toronto 6, Ontario.

DUFF-NORTON JACKS

▲ For more details circle NED-24 D5 on enclosed inquiry slip ▲

USE ECONOMICAL HYDRAULIC POWER

The Genesee Low Pressure Pumping Unit will supply hydraulic pressure up to 100 psi. to power inexpensive low pressure cylinders. It's easy to convert existing air-operated equipment to accurate hydraulic power. It is practical wherever pressure testing devices or linear or rotary motions are required.

Compact unit consists of motor-pump combination, adjustable relief valve, pressure gage and piped return. Model A supplies 4 gpm. and Model B 9 gpm. Pressure is adjustable from 0 to 100 psi.

For full information on this low-cost hydraulic power source, write to:

GENESEE MACHINE BUILDERS, INC.
Air & Hydraulic Sales Division
1731 HUDSON AVE., ROCHESTER 17, N. Y.

▲ For more details circle NED-25 D5 on enclosed inquiry slip ▲

this interesting illustrated booklet shows:

how to SAVE space, power, material, time with the remarkable all-steel FALK SHAFT MOUNTED DRIVE!

Falk Shaft Mounted-Drives are made in 6 sizes (½ to 30 hp), single or double reduction; output speed range 420 to 18 rpm.

There is a wealth of helpful, useful ideas and information in this data-packed booklet on the all-steel Falk Shaft Mounted Drive—a rugged, compact speed-reducing unit for direct mounting on the shaft to be driven. It illustrates typical applications where efficient speed reduction in limited space has been attained. This interesting booklet also contains: Selection tables (single and double reduction), load classification table, sheave ratio and minimum sheave diameter tables, dimension data, mounting diagrams, and full "How to Select" information.

Let us send you your personal copy. You will find it valuable. Write the Falk Corporation, 3043 W. Canal St., Milwaukee 8, Wisconsin—and ask for Bulletin 7101.

FALK a good name in industry

▲ For more details circle NED-26 D5 on enclosed inquiry slip ▲

A ROUGHER AND FINISHER 2 in 1

WOW! 3 to 5 times faster

WEIGHT 3 LBS.

COMPLETELY NEW DUAL ACTION SANDER

"You gotta' see it to believe it." Two Way action speeds the job, retards loading of sand paper even on solder or surfacer. Cuts costs up to 80%.

Easy FOR EVERY JOB

Dual Action or Straight-Line, electric or air.

SEE YOUR JOBBER OR WRITE FOR LITERATURE

DETROIT SURFACING MACHINE CO.
1265 E. EIGHT MILE ROAD DETROIT 20, MICHIGAN

▲ For more details circle NED-27 D5 on enclosed inquiry slip ▲

STANDARD has a spindle for every purpose!

STANDARD spindle users are a "Who's Who" of American metal working . . . here's the perfect answer to modernizing old machines.. developing special combinations with regular spindles.

★ DYNAMICALLY BALANCED
★ PRECISION ENGINEERED
★ EXTRA HEAVY DUTY

SPECIAL PROBLEMS?
Tell us about them . . . WE'LL DESIGN A SPINDLE FOR YOU . . . we take great pride in our reputation for custom engineering in the spindle field.
WRITE FOR LITERATURE TODAY!

Since 1912
the STANDARD electrical tool co.
PRECISION SPINDLES AND MACHINE TOOLS
2488 RIVER ROAD • CINCINNATI 4, • OHIO

▲ For more details circle NED-28 D5 on enclosed inquiry slip ▲

Electric Eel cleans sewers and drains with SAFETY

New DOUBLE CABLE protects operator. *Speedy, more efficient.* Flexible Outer Sheath for Safety

Most Powerful Machine of its Type
- *Full Electric Reverse for Rapid Withdrawal*
- *Increased Speed Through Greater R.P.M.*
- *Lighter Due to New Aluminum Frame*
- *Rotating Inner Cables*
- *Lines 1¼" to 8" Diameter*
- *Runs up to 200 Ft.*
- *Cleaning tools available for any work—each designed for a specific job.*

NEW! The Electric Eel is now made in a gasoline engine powered model designed for use where electricity is not available.

Write for more information. Dept. NED

OHIO TOOL & ENGINEERING CO., Springfield, Ohio

▲ For more details circle NED-29 D5 on enclosed inquiry slip ▲

THE EASY AND ECONOMICAL SOLUTION TO HEATING GASES AND PROCESS AIR

CHROMALOX Electric HEATERS

WANT MORE KNOW-HOW?
Get Catalog 50. It's filled with useful heating data.

For Accurate Temperatures Up to 1000°F Maintained by Thermostat with Manual or Automatic Control

Here is reliable, immediate and continuous heat for drying, curing and baking ovens that give you the temperatures you need. Easily installed in round or rectangular ducts for heating air and gases under forced circulation. Parallel fin design dissipates maximum heat with minimum turbulence of air stream. Moisture proof types available.

Industrial Div., EDWIN L. WIEGAND CO., 7509 Thomas Blvd., Pittsburgh 8, Pa.

A-4404 CHROMALOX See other ad on Pg. 93

ELECTRIC HEAT FOR MODERN INDUSTRY

▲ For more details circle NED-30 D5 on enclosed inquiry slip ▲

NEW EQUIPMENT DIGEST

BPA NBP

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

Penton Building, Cleveland 13, Ohio

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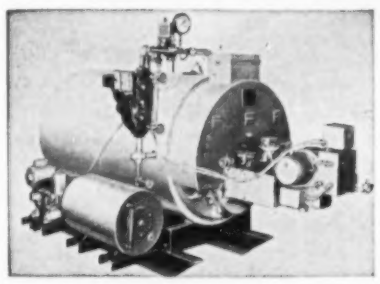
New Equipment Digest is published monthly by The Penton Publishing Co., Penton Building, Cleveland 13, Ohio. G. O. Hays, President & Treasurer; R. C. Jaenke, Executive Vice President; I. G. Steinebach, Vice President & Secretary; F. O. Rice, Vice President; J. P. Lipka, Asst. Secy. & Asst. Treas. Also Publisher of STEEL, FOUNDRY, MACHINE DESIGN and AUTOMATION. Accepted As Controlled Circulation Publication at Cleveland, Ohio.

Publisher's Notice: We assume no responsibility for the validity of claims in connection with news items appearing in New Equipment Digest. Addresses are given to facilitate further inquiry.

PACKAGED BOILER

eleven models rated at 100 psi have 19 to 500 sq ft heating surfaces

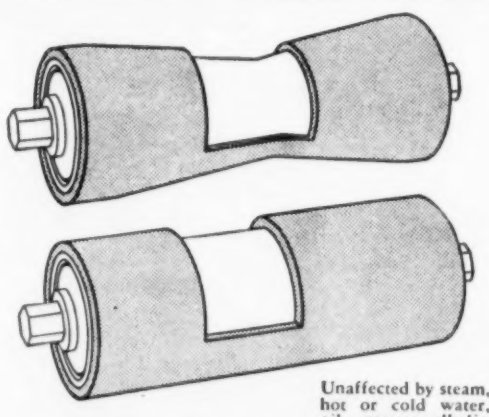


Steam for heating, power or processing can be furnished by line of Scotch marine packaged boilers. All models are equipped with standard - gage fire tubes which are completely covered with water at all times, structural steel skid mountings, 3 x 4-in. hand holes for inspection and scale removal, safety fuse plug and 1½ in. of mono-block rock wool insulation.

Power or atmosphere gas burner is equipped with safety control and is assembled and wired at the factory. McDonnell-Miller water column type pump and low water cut-off control and adjustable steam pressure control are incorporated.

Optional equipment includes diaphragm modulation valve on burners and condensate unit. Boilers are designed for 100-lb working pressure according to ASME boiler Code specifications, and 125 and 150 lb pressures can be specified. Water heating surface varies in 11 models from 19 to 500 sq ft. Made by **Williams & Davis Boiler & Welding Co.**, 2523 Canton St., Dallas, Tex.

▲ For more details circle NED-31 D5 on enclosed inquiry slip ▲



Unaffected by steam, hot or cold water, oil, grease, alkalis, salts and inorganic acids.

Now . . . New . . . Neoplastic

Must your product be handled with care? Neoplastic covering for conveyor rolls is improved in several ways, over old-style rubber and neoprene coverings. Developed by Logan, applied by Logan . . . quality is constant and delivery time is rapid. Thickness usually specified is ⅛" to ¼" but this can be increased. Neoplastic qualities are similar to neoprene but superior in some respects. Neoplastic price is generally lower than other such materials. Details on request.

LOGAN CO., 215 Cabel St., Louisville, Ky.

Logan Conveyors

▲ For more details circle NED-32 D5 on enclosed inquiry slip ▲

Free! New CATALOGUE Showing 750 Different CABINET COMBINATIONS A Type and Size for Every Need!

In our CATALOGUE, you'll find the perfect CABINET for your particular requirement, whether it be for small parts storage, handling or display. 750 different combinations can be CUSTOM-BUILT at production line prices.

2.98 and up

Send for CAT. JD-53-E

AKRO-MILS, INC. Box 989-E AKRON 9, OHIO

▲ For more details circle NED-33 D5 on enclosed inquiry slip ▲

for greater ECONOMY . . . for greater SAFETY!

specify quick release HARLEY PINS

Clean design and simple operation assure the perfect function of Harley **Shear Pins** at all times. The locking plunger and silicone rubber activating core will work in −100° to +500° F. and are impervious to weather, moisture, oils, alkalies and most acids. Made of high tensile steel, Harley **Shear Pins** are extremely durable though light in weight, and have been used in British aircraft for over three years **without a single case of failure or corrosion!**

Harley **Shear Pins** are available in over sixty different stock sizes, and can be fabricated to special sizes on order.

Write for illustrated literature.

Harley PATENTS, INC.
607 FIFTH AVENUE NEW YORK 17, N. Y.

▲ For more details circle NED-34 D5 on enclosed inquiry slip ▲

HAVE YOU CONSIDERED paper?

As a primary material, or as a replacement for what you are now using, *engineered* paper may produce lower costs, better performance, or both. Paper can possess built-in special properties to replace fabric or be better functionally than materials currently being used or considered.

ASK ALDINE SPECIALISTS IN SPECIAL PAPER

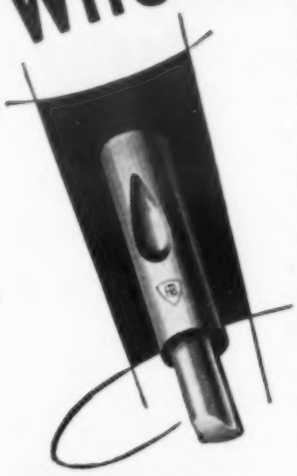
Write us in detail about your materials problems, ideas or questions. A properly selected or engineered paper may produce unexpected results in better processing technique or product improvement.

Send for unique rayon fibre Lens Tissue Folder . . . without obligation, of course.

ALDINE PAPER COMPANY, INC.
7 East 44th Street • New York 17

▲ For more details circle NED-35 D5 on enclosed inquiry slip ▲

WHO USES R-B PUNCHES



Through many years of providing America's leading industries with interchangeable and standardized punches, die buttons and retainers, R-B has built a reputation for increasing production, lowering costs and saving time. R-B case histories of savings and benefits include users of cam actuated, multi-station progressive, forming, blanking, piercing, embossing and combination dies of all sizes and types.

Use R-B Engineering Service for Your Tough Piercing Problems.

Why don't you investigate the cost saving features of R-B equipment?

RICHARD BROTHERS PUNCH DIVISION
ALLIED PRODUCTS CORPORATION
DEPT. 77 • 12629 BURT ROAD • DETROIT 23, MICHIGAN

Also Produced in OTHER ALLIED PLANTS
SPECIAL COLD FORGED PARTS • STANDARD CAP SCREWS
PRECISION GROUND PARTS • SHEET METAL DIES MADE OF FERROUS ALLOYS, ZINC ALLOYS OR PLASTICS

▲ For more details circle NED-36 D5 on enclosed inquiry slip ▲

Hoist A HALF TON WITH THE POWER OF YOUR TRUCK BATTERY

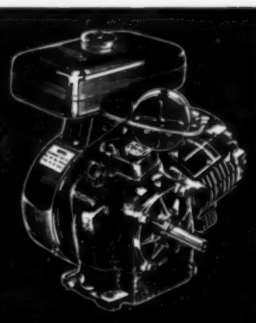
Cut your receiving and delivery costs with this low priced versatile hoist that pays for itself in a few short months. Consumes a minimum of current from regular truck battery. Interchangeable from truck to dolly in moments.

Write factory for illustrated literature and further information.

BURTCHAELL HEATING CO.
HOIST DIVISION: 2944 S. E. Powell • Portland 2, Oregon

▲ For more details circle NED-37 D5 on enclosed inquiry slip ▲

Extra-Tough JOBS Call for EXTRA-DEPENDABLE POWER



The more you have to gain through uninterrupted performance, the more you need the extra dependability of Red Seal* heavy-duty air-cooled power. Carter center-bowl type carburetor, improved manifolding, valving and cooling, join with greater displacement to give you more "lug" at low speeds—more usable power at high—greater dependability and economy throughout the entire range.

• • •

MODEL AU85
NOTE COMPACTNESS—This 3-h.p. engine is 13⅛" high.

OPTIONAL RED SEAL FEATURES

Patented, exclusive Contex* external ignition system, instantly accessible for adjustment or repair . . . Automatic ignition cut-off stops engine if oil level falls dangerously low . . . New, sure-grip recoil starter assures instant starting every time . . . 6:1 reduction gear may be mounted in any of four positions . . . Engines may be had for operation on kerosene.

SERVICE FACILITIES AND RED SEAL PARTS AVAILABLE EVERYWHERE

*TM REG.

Continental Motors Corporation
AIR-COOLED INDUSTRIAL ENGINE DIVISION
12800 KERCHEVAL AVENUE • DETROIT 15, MICHIGAN

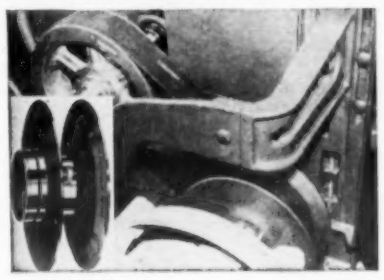
▲ For more details circle NED-38 D5 on enclosed inquiry slip ▲

ELECTRIC CHAIN HOIST in capacities from ⅛ to 1 ton

Shockproof pushbutton control, sealed-in lubrication, self-adjusting heavy duty brake, overload protection, protected components and safety limit switches are among features of this CM Lodestar electric chain hoist. The lightweight, compact unit has a jamproof chain guide and nonkinking flexible link alloy chain which enables the hoist to be used for extreme angle pulling. Single phase model (without contactor) can be used for side pulling as well as upside down. All swivel or rigid hooks and lugs, and adapters are interchangeable on all models. Capacities range from ⅛ to 1 ton, and models operate on either single-phase 115-v or three-phase 208-220/440-v 60-cycle power. Made by **Columbus McKinnon Chain Corp.**, Chisholm-Moore Hoist Div., Tonawanda, N. Y.

▲ For more details circle NED-39 D5 on enclosed inquiry slip ▲

ADJUSTABLE-SPEED DRIVE transmits up to 30 hp maximum



Single-groove wide-range adjustable speed drive available in Q, R and W-belt sections will safely transmit up to maximum of 30 hp. Drive permits speed variation of as much as 100 per cent. Drive consists of adjustable-diameter sheave with double-taper hub construction; Wedg-Tite companion sheave with groove angles machined to match Wedgbelt angle; wide-range Wedgbelt; and Adjusto-Slide motor base with single screw adjustment designed for use with American adjustable-speed drives. The Q-groove sheave has pitch diameter range from 5.0 to 8.5, the R-groove sheave from 5.5 to 10.0 and the W, from 5.5 to 11.0. Made by **American Pulley Co.**, 4245 Wissahickon Ave., Philadelphia 29, Pa.

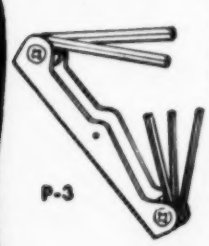
▲ For more details circle NED-40 D5 on enclosed inquiry slip ▲

Heavy Duty Lathe

Monarch Machine Tool Co.—Designed to use full advantage of carbide tooling, models 2500, 2501 and 2502 of series 90 Dyna-Shift lathe are discussed at length in 26-page bulletin 1601. Operation simplicity of lathe is made possible by new headstock drive which facilitates obtaining, automatically, the right surface cutting speed for any given work diameter.

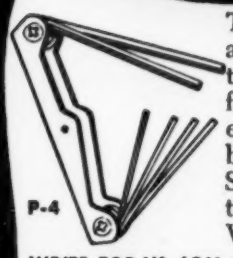
▲ For more details circle NED-41 D5 on enclosed inquiry slip ▲

YOU ASKED FOR IT...
Here They Are! THREE NEW LARGER SMITTYS!



The famous Smitty Jacknife type sockethead set is now available in 5 different models. Everybody needs a Smitty—the right size wrench is always available — never lost or "borrowed." No scattering, no rummaging thru tool box. Husky handles won't bend or break—gives greater leverage at any angle.

Smitty JACKNIFE DRIVERS
For Sockethead Bolts & Set Screws

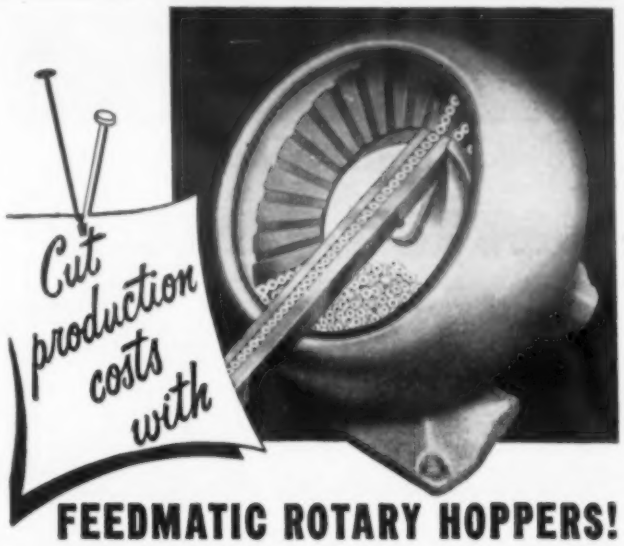


The Smitty sets now handle all set screws from the #3 thru 3/4"—and all cap screws from #1 thru 9/16". Included in the new larger combinations is a long blade Smitty which is equivalent to the long arm series Hex Wrenches.

WRITE TODAY (ON COMPANY LETTERHEAD) FOR INDUSTRIAL CATALOG OF UNUSUAL, PRACTICAL HUNTER TOOLS, PLUS SPECIAL QUANTITY QUOTATIONS.

HUNTER TOOLS
HUNTER TOOL COMPANY
DEPT. 3, 6608 S. GRETNA, WHITTIER, CALIF.

▲ For more details circle NED-42 D5 on enclosed inquiry slip ▲



FEEDMATIC ROTARY HOPPERS!

Continuous Automatic Parts Feeder eliminates high-cost hand feeding! This compact automatic hopper efficiently feeds small parts—reduces assembly costs on all high-volume operations! Feedmatic continuously delivers parts in proper position for assembly through attached feed tracks. Feeds 3 to 5 times faster than hand-feeding! Hoppers can be designed with as many as four separate tracks.

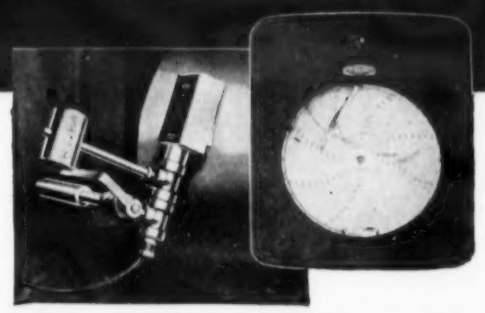
Use Feedmatic for high-speed parts delivery to machine tools, presses, grinders, special machines—or for sorting, counting and inspection. Find out how you can cut costs in your operation with Feedmatic. Write today and send samples of your small parts!

WRITE TODAY FOR DESCRIPTIVE BULLETIN!

FEEDMATIC INC.
22517 TELEGRAPH ROAD DETROIT 19, MICHIGAN

▲ For more details circle NED-43 D5 on enclosed inquiry slip ▲

NOW! CONTINUOUS MEASUREMENT OF ROLL SURFACE TEMPERATURES



SPECIFICALLY DEVELOPED for calender rolls, dryer rolls and other moving surfaces used in processing . . . plastics, rubber, textiles, metals, paper, food. Saves steam, reduces waste, improves product quality.

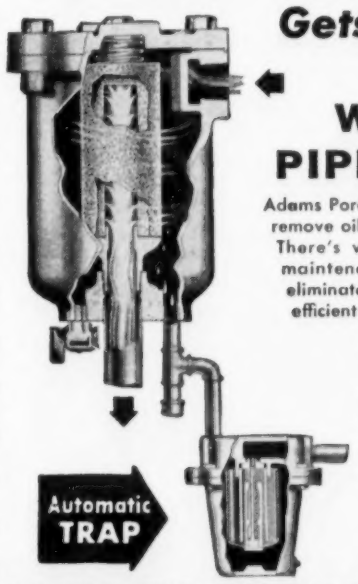
The system consists of an *entirely new type* of measuring head . . . plus a Dynalog *Electronic Recorder or Controller. Minimizes ambient or radiant temperature errors. No scoring of the roll. Operating range: −40°F to + 350°F, higher under special conditions. Write for Bulletin 405.

The Foxboro Company, 664 Neponset Avenue, Foxboro, Mass., U. S. A.
*Reg. U. S. Pat. Off.

FOXBORO Reg. U. S. Pat. Off. INSTRUMENTATION RECORDING • CONTROLLING INDICATING

▲ For more details circle NED-44 D5 on enclosed inquiry slip ▲

ADAMS FILTRATION for COMPRESSED AIR



Gets rid of—
OIL
WATER
PIPE SCALE

Adams Poro-Stone Filters efficiently remove oil, water, and pipe scale. There's virtually no service or maintenance. Automatic Trap eliminates attention — assures efficient filter operation.

- Permanent Poro-Stone element
- Centrifugal separation
- Diffused filtration
- Low pressure loss
- Prompt delivery of all sizes

Write today for Bulletin 177

R. P. ADAMS COMPANY, INC., 227 E. Park Dr., Buffalo 17, N.Y.

ADAMS *Poro-Stone* AIR FILTER

▲ For more details circle NED-45 D5 on enclosed inquiry slip ▲

How to Bond New Concrete to Old Concrete...permanently!

The answer is

WELD-CRETE®

Weld-Crete is the amazing, job-proved liquid bonding agent (approved by New York City Board of Standards and Appeals) which enables you to *permanently* bond new concrete or cement topping *directly* to old concrete surfaces. Eliminates from permanent concrete repair work the need for costly, time-consuming drilling, chipping, roughening or scarifying of old concrete base. To use, simply apply a brush or spray coat of Weld-Crete to old dirt and oil-free concrete surface (floor, ramp, driveway, curb, etc.) . . . let dry (about 1 hour), then apply new concrete. Your repair is *permanent* . . . a Weld-Crete bond *never lets go!* When used with quick setting cement topping you can lay new floors, ramps, driveways, etc. one day and run heavy truck traffic over them the next. Ask your Building Materials Dealer . . . or write us direct.

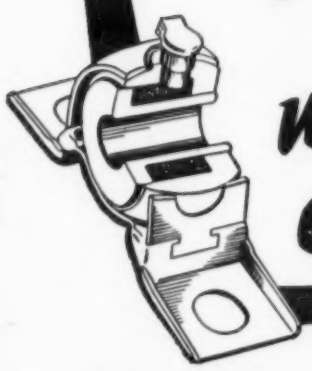
Typical WELD-CRETE Applications: In this case, Weld-Crete was used by National Brick Co., Terra Cotta, D. C., to bond new ¾" concrete topping directly to old, badly chipped and spalled floor slab which had been subjected to ceaseless heavy truck traffic. Plant shut-down time eliminated because Weld-Crete enabled National's own mechanics to do job over week end.

NATIONAL BRICK COMPANY

LARSEN PRODUCTS CORPORATION
BOX 5756-N • BETHESDA, MD.

▲ For more details circle **NED-46 D5** on enclosed inquiry slip ▲

Up to five times longer operation... *without oiling!*



New Congress bearings with exclusive Permawick wicking material provide longer life with less maintenance than other bearings now in use. Here's why. It's the pumping action of the rotating shaft (just like a vaneless pump) that causes oil flow through a sintered bearing and *not* capillary action.

Permawick wicking resists pumping action and meters oil to the shaft only as needed because of its high tenacity for oil and resistance to high temperatures. It holds up to nine times its weight in oil, too. And, Congress factory-fills all bearings with an oxidation-inhibited oil. Congress Permawick-filled bearings also are available with Plastic E.

- **Standard pillow block bearings require oiling in less than 1,000 hours service.**
- **New Congress Permawick-*filled* bearings do not require any attention for 2,000 to 5,000 hours operation. Thousands of tests in both laboratory and the field have proven it.**

Plus— POSITIVE SELF ALIGNMENT
MOUNT IN ANY POSITION
INTERCHANGEABLE WITH OTHER PILLOW BLOCKS
LOW-COST

Bore sizes from ½ through 1¼-inches. Immediate delivery from stock. Complete specifications in Bulletin PB-54 on pillow block and flange-mount bearings.

CONGRESS

DRIVES DIVISION *Tann Corporation*
3750 E. OUTER DRIVE . . . DETROIT 34, MICHIGAN

One Source- SINGLE RESPONSIBILITY FOR ALL YOUR DRIVES

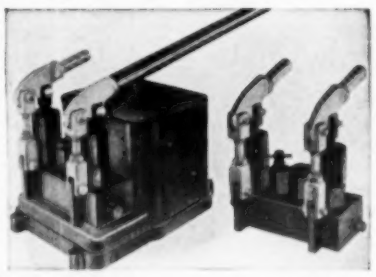
▲ For more details circle **NED-47 D5** on enclosed inquiry slip ▲

INDUSTRIAL FANS in capacities from 500-46,000 cfm

Industrial fans formerly produced only as components of Dracco dust control systems are now available for use in all types of industrial handling applications. Standard designs can be used to handle clean or dirty air, fumes, dust, refuse, shavings or stringy material. Special types are available for conveying explosives, gases up to 800° F, or materials of a corrosive nature. Variety of sizes includes inlet diameters from 11 to 38 in., pressures to 17 in. S.P. and capacities from 500 to 46,000 cfm. Wheel is easily removed from housing for maintenance. Extra reinforcement of heavy gage welded steel construction reduces vibration in larger fans. Made by **Dracco Corp.**, 4053 E. 116th St., Cleveland 5, O.

▲ For more details circle **NED-48 D5** on enclosed inquiry slip ▲

HAND HYDRAULIC PUMP delivers pressures to 10,000 psi



COMPLETE PUMP — PUMPING UNIT

Because it has two separate pumping units, this hand-operated hydraulic pump permits a variation in the operating speed of the ram, jack or other equipment being activated. One piston is ¾-in. diameter and delivers 3000 psi for high volume and greater speed, while the other piston has ½-in. diameter and delivers 10,000 psi for maximum power at lesser speed. Pump handle is readily changed from one pump to the other. Integral oil reservoir holds 1 gallon. Pump is also available as separate unit with built-in overload valve. Other piston diameters are offered at extra cost for pressures up to 20,000 psi. Made by **Owatonna Tool Co.**, 436 N. Cedar St., Owatonna, Minn.

▲ For more details circle **NED-49 D5** on enclosed inquiry slip ▲

Air-Actuated Vacuum Cleaner

Wilson Engineering Corp.—Particularly suitable for use in industrial cleaning operations wherever a 60-psi source of compressed air is available, the Woodruff Syphon Jet vacuum cleaning system is safe and easy to operate. Complete set of tools, hoses and accessories is available for all types of cleaning operations. Full details on this equipment are contained in 4-page illustrated bulletin 50.

▲ For more details circle **NED-50 D5** on enclosed inquiry slip ▲

LEXCO HYDRAULIC LIFT TABLES

save *money, time and energy*

Lift heavy castings, dies, machine accessories and other heavy articles—Use as adjustable work bench—Welder's positioning table—Leveling Table for Presses, conveyors, loading trucks, etc. Many other uses too numerous to mention.

- A new specially engineered method to give hydraulic power and ease. Table capacity 2000 lbs.—Hydraulic unit 3000 lbs.
- Table is 30" long by 20" wide by 30" overall height with an 18" raise to 48" overall height—hand pumped—¼" per stroke. Lowered fast or slow with simple release valve.
- Equipped with floor lock to anchor truck in position; controlled by foot pedal, toe release.
- Mounted on Two 5" rigid casters and two 5" swivel casters. All casters with bearings in axles.
- A safety first item to eliminate fractured limbs and strained muscles.

list **$169** f.o.b Lansdale, Pa. *Distributorships available.*

LEXCO ENGINEERING & MFG. CORP.
P. O. BOX 161—DEPT N. COLMAR, PA.

▲ For more details circle **NED-52 D5** on enclosed inquiry slip ▲

CARBIDE TOOL PRODUCES 80,000 PIECES *instead of 25,000 after* VAPOR BLASTING

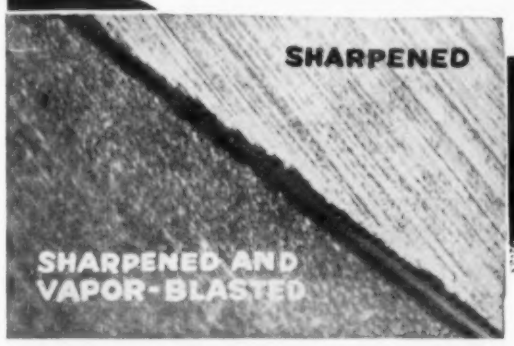


Photo shows edges of two similarly-ground Carbide Tools magnified 125 times. Lower Vapor Blasted tool produced 320% more pieces than the "as ground" tool. Better part finishes also were achieved by the true cutting edge produced by Vapor Blast blending of grind lines.

Vapor Blast Liquid Honing can pay for itself in your tool-room or machine shop — and many other operations. Get the facts today, or ask for a call from your nearby VB representative.

VAPOR V-B BLAST MILWAUKEE WISCONSIN

VAPOR BLAST MFG. CO.
3063 West Atkinson Street
Milwaukee 16, Wisconsin

▲ For more details circle **NED-53 D5** on enclosed inquiry slip ▲

NEW "NEO-SOL" BLACK AND "NEO-SOL" WHITE

CHOICE TERRITORIES OPEN FOR ADDITIONAL JOBBERS

A BONUS BUY FOR SAFETY

NEW

PROTECTION FOR WORKING HANDS

CHARCO ALL-NEOPRENE NEO SOL® GLOVES

These two new all-neoprene top quality gloves offer a real bonus in job efficiency and economy, through extra long life and superior hand protection. One is solid black for general use; the other truly white for food processing and sanitary purposes. Both have red inner lining and red roll at the cuff; and both have plus qualities in hand comfort, flexibility and touch sensitivity.

FOR SAFETY BUY "CHARCO"

ON THE USE AND PERFORMANCE OF CHARCO PRODUCTS DEPENDS OUR REPUTATION . . . AND THE SAFETY OF THOSE WHO USE THEM. NO WONDER WE MAKE ONLY THE FINEST!

Prove This in Your Plant! Place a Trial Order Today

FREE.. *write today* for our NEW 28 page Industrial Protective Equipment catalog

CHARLESTON RUBBER COMPANY
18 STARK INDUSTRIAL PARK
CHARLESTON, SOUTH CAROLINA

▲ For more details circle **NED-51 D5** on enclosed inquiry slip ▲

NEW "WEATHER-LAB"

. . . LOW COST Full-Range Temperature-Humidity Cabinet

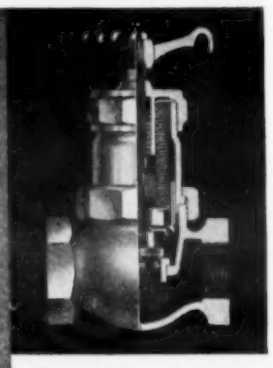
Answers the need for a readily-available environmental test tool that meets JAN, MIL and all above-freezing gov't. specifications. Automatically controls or programs dry and wet bulb conditions for checking product performance under extreme tropical or desert conditions. Typical HUDSON BAY® stainless steel construction with many plus features.

WRITE FOR DESCRIPTIVE BULLETIN NO. 109-101.

HUDSON BAY DIVISION
REFRIGERATION SYSTEMS, INC.
646 W. Washington Blvd., Div. ED, Chicago 6, Ill.
Representatives in Principal Cities

▲ For more details circle **NED-54 D5** on enclosed inquiry slip ▲

ARE LITTLE LEAKS CAUSING YOU BIG LOSSES?



No. 304-N Sylphon Packless Valve comes in sizes from ½" to 2" for pressures up to 150 lbs. Also available in larger sizes in No. 1304 with flanged connections for liquid pressures up to 80 lbs. No. 304-NV is ideal for vacuum service.

Stop them with SYLPHON PACKLESS VALVES

● Costly leaks of valuable liquids or gases can be *stopped for good* . . . with Fulton Sylphon Packless Valves. They prevent waste—provide vacuum protection—help your equipment operate more efficiently and economically.

A dual-ply, seamless Sylphon metal bellows replaces customary packing . . . provides a positive seal. Many sizes and types, with body made of brass, bronze, cast iron, cast steel, stainless steel or monel.

Widely used in the processing industries—chemical plants, oil refineries; also in power plants, aboard ships. Ideal for standard equipment. Write for Bulletin CN-815

Robertshaw-Fulton CONTROLS COMPANY

FULTON SYLPHON DIVISION
KNOXVILLE 1, TENN.

Temperature Controls • Bellows Devices • Bellows Assemblies

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Boxley Z Type

CONVEYOR ROLLS

Prevent costly damage to parts and materials as they move along your conveyor line! Boxley conveyor rolls cushion the load . . . absorb shock . . . eliminate surface marring and scratching. Boxley rolls, with exclusive "Z"-type design, instantly adapt themselves to the surface contour of the conveyed piece. Compare these outstanding advantages:

- SYNTHETIC RUBBER CONSTRUCTION—resists oil and die lubricants.
- PRE-LUBRICATED ROLLER BEARINGS absorb heavy shock loads encountered in automation equipment.
- FAST, EASY INSTALLATION.
- MATERIAL AND WORKMANSHIP GUARANTEED.

For damage-free, lower-cost handling, specify Boxley "Z"-type rolls for your conveyors!

THE BOXLEY COMPANY
7410 Woodward Avenue • Dept. 14 • Detroit 2, Michigan
WRITE FOR PRICES AND ILLUSTRATED BULLETIN TODAY!

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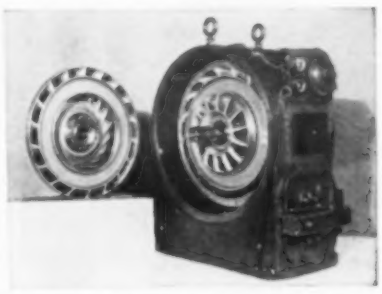
TORQUE CONVERTORS
in capacities from 30 to 600 hp and wheel sizes from 11 to 26 in.

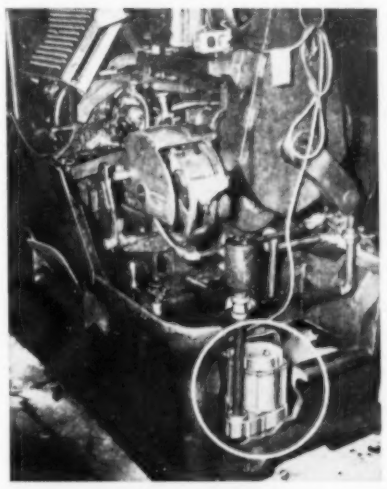


Line of Torcon torque converters for use in heavy-duty, off-the-road vehicles as well as for stationary power plants includes units with 11 to 26-in. wheels. Of single stage type, line includes rated capacities from 30 to 600 hp. Basic package consists of standard torque converter with such accessories as pump, cooler and pressure regulator. Optional feature is free-wheel mounting for stator or reaction member which gives unit combined advantages of torque converter and fluid coupling.

Operating characteristics are matched to those of engines with which units will be used. Stall torque ratio is 3:1. Units can be obtained with housing or case designed for the installation, or with general-purpose case which permits multiple means of torque transmission. Provision can be made for a lock-out clutch; dry or disconnect clutch; sprockets; pulley; flange-universal joint combination; industrial shaft without accessory drive; or industrial shaft with governor or accessory drive output. Made by **Clark Equipment Co.,** Automotive Div., Falahee Road, Jackson, Mich.

▲ For more details circle **NED-57 D5** on enclosed inquiry slip ▲

COOLANT PUMP
high volume unit submerged in sump



Coolant system employing a model P109N pump in the oil sump of a machine tool makes it possible to continuously flood work with up to 3300 gph of cutting oil. Advantages derived from high volume application of coolant are extended tool, bearing and machine life; improved tool finish and high chip carrying capacity. Submersible pump will operate when completely submerged in oil and is powered by a ⅓-hp, 1725-rpm split-phase motor which is coupled to an open-faced impeller. Single-case unit is 11⅛ in. high and weighs 45 lb. Models for 115 and 230 v are available. Made by **Kenco, Inc.,** Dept. 501, 1125 N. Ridge Rd., Lorain, O.

▲ For more details circle **NED-58 D5** on enclosed inquiry slip ▲

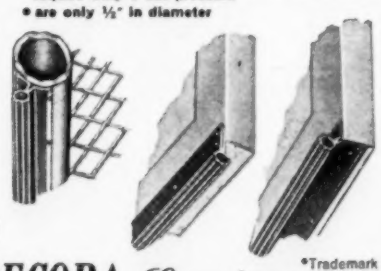
Hydratube* Switches

. . . closed end flexible plastic tubes of almost any length, containing hydraulic fluid and an integral switch which can be adjusted to operate at pressures from one ounce up. HYDRATUBE switches can be installed to follow almost any line, contour or periphery. HYDRATUBE switches can be used as safety and alarm switches on electrically powered office and factory machines, automatic doors, etc., offering the following advantages:

- will follow contours in three dimensions, can be bent around 90° corners
- are impervious to weather, oils, soaps, cleaning compounds and most acids
- have adjustable operating pressures
- will handle up to 1 ampere when adjusted to 8 oz. pressure or more
- are extremely sensitive—can be adjusted to require only 1 oz. pressure
- are only ½" in diameter

Integral switch with lead wire and operating-pressure adjustment screw.

(right) Wear-resistant, flexible rubber housing (with slit leg for universal mounting) available to facilitate mounting of HYDRATUBE on machinery and conveyors, factory gates, elevator, garage and other overhead doors. Can be installed to serve as weather seal.



Write for Bulletin HT-31

*Trademark

The RECORA Company
56 WEST 103rd STREET • CHICAGO 28, ILLINOIS

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". . . . and under the picture say that my new assistant proposed packaging in Clearsite Plastic Containers."

Choose from a wide selection of feather-light, sparkling-bright, shatter-proof Clearsite Containers, or have special sizes made to your specifications. Any trademark or label can be multi-color printed right on the container.

Write for free samples and descriptive literature.

CELLUPLASTIC CORPORATION
General Offices:
44 Avenue L, Newark 5, N. J.

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According to our customers, they continue buying Ledeen Cylinders because, "You people knock yourselves out to give us good service, and your cylinders perform better and last longer."

At Ledeen we perform no miracles, but we do give you quick delivery, good service, and, above all, a good sturdy, reliable cylinder.

Ledeen Cylinders are good cylinders.

Write for Bulletin 500.

VALVES • CYLINDERS
VALVE ACTUATORS
AIR-HYDRAULIC PUMPS & BOOSTERS

Ledeen Mfg. Co.
1604 So. San Pedro St.
Los Angeles 15, Cal.

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Du-Lite FINISHED

The Marlin Firearms Co., "Famous for Fine Guns since 1870", has long depended on Du-Lite black oxide for an attractive finish that will be dimensionally stable throughout the life of the gun.

The Du-Lite process provides intricate precision parts with a durable, rust-resistant black oxide finish. And since Du-Lite penetrates the metal, all crevices and knurls are protected without affecting dimensions or fit.

If your target is durable, attractive, economical finishing, you'll want to know more about Du-Lite black oxide.

Whatever your cleaning or finishing problem—
Depend on Du-Lite.

Write for complete information.

Du-Lite DU-LITE CHEMICAL CORP. MIDDLETOWN CONN.
METAL FINISHING SPECIALISTS

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Got a DUST PROBLEM?

YOU NEED A . . .

DUPOR No. 46

U. S. B. of M. APPROVED RESPIRATOR

Big 46 sq. in. filter guards against all toxic or poisonous dusts. Guards against pneumoconiosis or silicosis producing dusts. Full panorama visibility. Can be worn with goggles or glasses. Maximum protection at economical low cost! Order sample today, $3.25 postpaid.

H. S. COVER, SOUTH BEND, IND.
P.O. BOX #2508

"Respirators for Industry since 1894"

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CIRCULAR SAW GRINDER
sharpens 5 to 44-in. diameter saws

Rip, crosscut or combination - tooth circular saws from 5 to 44 in. diameter can be sharpened on model 3140 circular saw grinder. Positive settings provide correct pitch on all teeth as well as uniform tooth height, depth and bevel. Saw tilts to 45 degrees both ways for bevel grinding. Pointer and graduated quadrant scales assure accurate positioning. Firmly anchored saw support prevents vibration. Powered by high speed ⅓-hp motor with lifetime lubricated ball bearings, grinder meets all safety standards and has wheel guards. Price is $100. Made by **Foley Mfg. Co.**, Dept. 80, 3300 N.E. Fifth St., Minneapolis 18, Minn.

▲ For more details circle NED-66 D5 on enclosed inquiry slip ▲

METAL ADHESIVE
joins glass and ceramic to metal

Supplied in ready-to-use paste form, R-385 bonding agent is a one-component epoxy type metal adhesive. It will bond various materials such as ceramics and glass to metal as well as metal to metal. Only pressure needed is to hold parts together during a 1-hr bake at 325° F. After curing, bond will withstand temperatures up to 500° F for long periods of time. It is chemically inert to acids, alkalies and salt water. Made by **Carl H. Biggs Co.**, Dept. B, 2255 Barry Ave., Los Angeles 64, Calif.

▲ For more details circle NED-67 D5 on enclosed inquiry slip ▲

CONTROLLED FLOW HOPPER
delivers proper quantity of parts

Cybernetic flow control automatically controls the flow of parts or material from this floor hopper to successive equipment, usually one rotary feeder, hopper or a battery of machines. This electronic brain always measures the amount of material needed in equipment being fed and makes the floor hopper keep pace with demand for parts. Floor hopper and successive equipment may be remote to each other. Developed by **Arlin Products, Inc.**, Auburn Ave., Detroit, Mich.

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NOW! YOU CAN BUILD YOUR OWN S-A CONVEYOR WITH THE... **SACO** SECTIONAL BELT CONVEYOR

Includes the following components ready for assembly in your own plant: • HEAD and TAIL PULLEY ASSEMBLIES • NORMAL DUTY HOLDBACK • SPRING-TYPE BELT CLEANER • #745 CARRIERS • #745 RETURN ROLLERS • CONVEYOR BELT • DRIVE ASSEMBLY • STEEL DECKING

IN STOCK for IMMEDIATE DELIVERY

featuring #745 BELT CONVEYOR CARRIERS

WRITE TODAY FOR COMPLETE INFORMATION

STANDARD PRODUCTS DIVISION
STEPHENS-ADAMSON MFG. CO.
12 Ridgeway Ave. Aurora, Illinois

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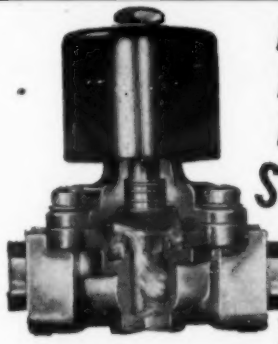

Major advance in Heavy Duty Low Pressure SOLENOID VALVES

TIGHT SEATING assured for natural and manufactured gas, air, propane, butane, water, gasoline, and light fuel oil to 180°F.

Mount this new ASCO Low Pressure Solenoid Valve of industrial-type construction in any position without affecting its operation. For pressure up to 7 Psi, the Bulletin 8030A helps give full design flexibility to gas pilot applications on industrial ovens and furnaces — automatic dispensing and vacuum holding applications.

And ASCO combines ruggedness with simplicity by housing a single moving element — the stainless steel core and composition disc — in an extra heavy forged brass body.

Operation is just as remarkable. Energizing the solenoid with only 10 watts provides positive opening action. Both ⅛" and ½" pipe sizes feature oversized ports (⅛" orifice) for greater flow at an exceptionally low pressure drop.

There's one source that solves virtually any solenoid valve problem —ASCO. For full data on this new Low Pressure Solenoid Valve, write today for Application and Development Report 8030A.

Automatic Switch Co.
379-B Lakeside Avenue,
Orange, New Jersey

ASCO
Automatic Transfer Switches
Electromagnetic Controls
Solenoid Valves

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Use Parker Hand Tube Benders for neat bends, perfect alignment

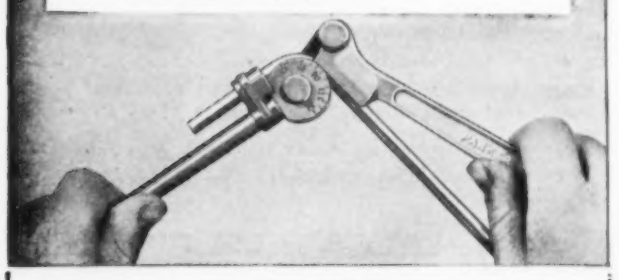
- Easy-to-use, sturdy tool for bending tubing of copper, brass, aluminum alloy, or fully annealed steel. Heavy-duty style for larger tubing.
- Handy in close quarters.
- Benders for tubing of outside diameters of:

1/8"	$8.47	1/2"	$16.17
3/16"	7.48	5/8"	21.18
1/4"	6.88	3/4"	28.05
5/16"	10.45	7/8"	35.75
3/8"	7.92	1"	43.45

plus postage

Parker — Hydraulic and fluid system components

- Also: tube cutters, flaring tools, and production tube benders, hose assembly equipment.



Order from your Parker Distributor—or Tube and Hose Fittings Division, Section 456-U, The Parker Appliance Co., 17325 Euclid Ave., Cleveland, O.

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MORE COMFORT EFFICIENCY PRIVACY in LESS SPACE

El-Units afford exceptional comfort and convenience, with more work-top space closer at hand, and require ⅓ less floor space than ordinary arrangements. Complete flexibility to suit working needs and space conditions...7 different work tops, 6 cabinet units including filing and Fold-O-Way typewriter units, extensive accessories, and free-standing glass-topped steel panels in several sizes. Equipment and panels are portable, easy to set up, re-arrange or move. Construction is by Art Metal...the finest.

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ART METAL CONSTRUCTION CO.
Jamestown 20, New York

For 67 years the finest in office equipment and systems

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BUSCHMAN CONVEYOR SYSTEM...
Gravity or Powered

Your crew, using Buschman standard components, can set up a conveyor system tailored to your needs. Buschman features make set-up or rearrangement fast and easy. Aluminum or steel sections are available in a complete range of widths and wheel or roller spacings. Powered belt, live roller, slat conveyors, etc. can be made from a wide selection of sizes, types and capacities.

PRODUCE MORE...FOR LESS Buschman Conveyors C-175-EWB

Write today for literature.

REPRESENTATIVES IN PRINCIPAL CITIES

THE E. W. BUSCHMAN COMPANY
4482 Clifton Avenue • Cincinnati 32, Ohio

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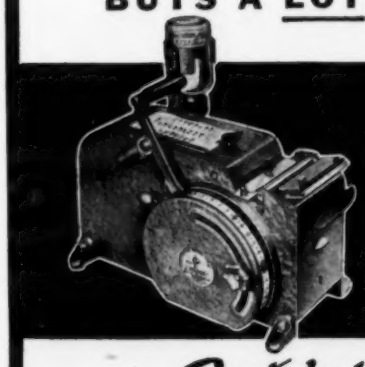
A LITTLE MORE— BUYS A LOT MORE



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Inquire about big LABOR SAVINGS possible with Counterboy 120-A, which cuts all reinforced tapes. Your Better Packages' man is listed in phone book—call him for FREE Trial, specify model..

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Plant #1-C, 253 Canal Street, Shelton, Conn.

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45	95	145	195	245	295	345	395	445	495	545	595	645	695	745	795	845	895	945	995	1045	1095	1145	1195
46	96	146	196	246	296	346	396	446	496	546	596	646	696	746	796	846	896	946	996	1046	1096	1146	1196
47	97	147	197	247	297	347	397	447	497	547	597	647	697	747	797	847	897	947	997	1047	1097	1147	1197
48	98	148	198	248	298	348	398	448	498	548	598	648	698	748	798	848	898	948	998	1048	1098	1148	1198
49	99	149	199	249	299	349	399	449	499	549	599	649	699	749	799	849	899	949	999	1049	1099	1149	1199

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—USE THIS SLIP FOR APRIL 1955 ISSUE ONLY—

D-5

NAME ..... TITLE .....

COMPANY .....

ADDRESS .....

CITY ..... ZONE ..... STATE .....

Principal Products Manufactured .....

..... Approx. Number of Employees in Plant .....

Check Invested Capital Rating of Your Company

- ☐ Over $1,000,000
- ☐ $500,000 to $1,000,000
- ☐ $200,000 to $500,000
- ☐ $75,000 to $200,000
- ☐ Under $75,000

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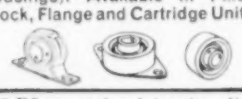
Write for Bulletin 1253

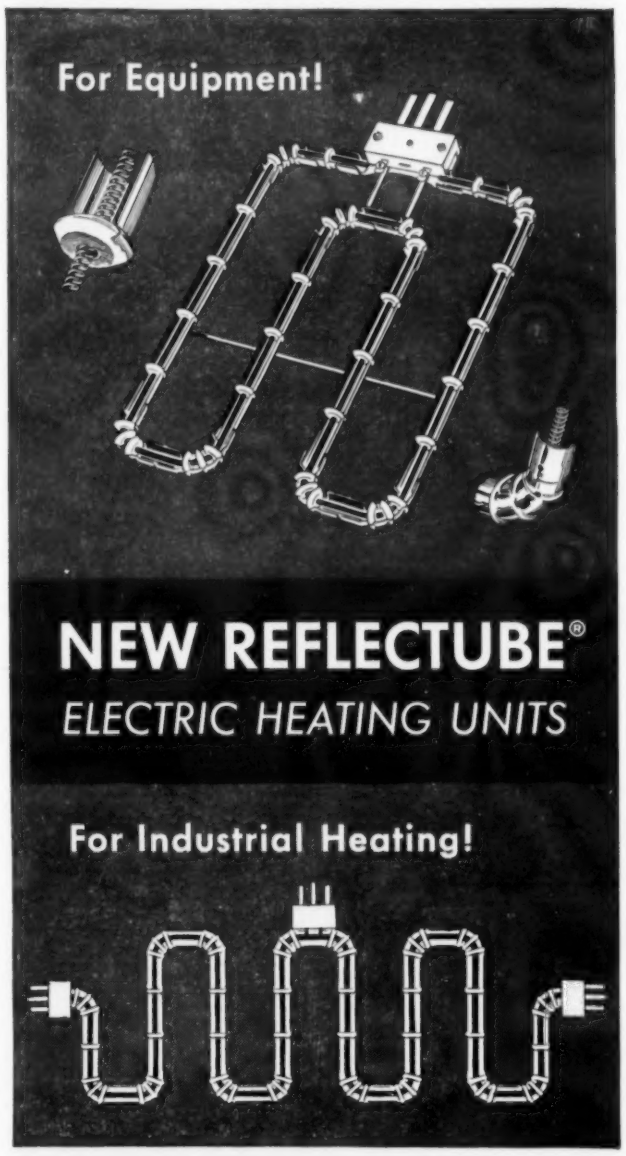
SEALMASTER

BEARING DIVISION
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE
AURORA, ILLINOIS

SEALMASTER Rubber Mounted, Zone Hardened Bearing units are the efficient answer for smooth, silent, maintenance-free operation. Designed especially to reduce noise and vibration, a Zone Hardened Permanently Sealed SEALMASTER Ball Bearing Unit is mounted in a synthetic, oil-resistant rubber ring which fits snugly into a pressed steel housing. (Cartridge units available for insertion in special and built-in housings). Available in Pillow Block, Flange and Cartridge Units.



For more details circle NED-73 D5 on enclosed inquiry slip



A continuous steel reflector attached to one side of the open-coil element directs the heat where you want it, brings new efficiency to electric heating.

Originally developed for appliances and equipment, REFLECTUBE Heaters are also available to order, in flexible "add-a-section" units for industrial purposes. Each unit comes completely wired and with terminal. And two units can be joined in less than a minute.

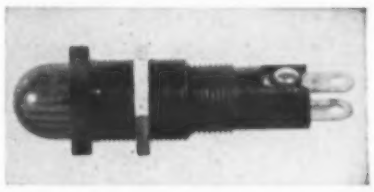
Write for prices, giving us complete information on your requirements!

FERRO
ELECTRIC PRODUCTS, INC.
KIRKLAND, ILLINOIS

A Subsidiary of FERRO Corporation

For more details circle NED-74 D5 on enclosed inquiry slip

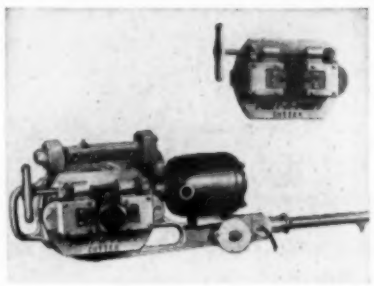
PILOT LIGHT
various lens colors available



Plastic lens cap of the T2 SLC-P indicating lamp shows brilliantly when the bulb is lighted, providing in excess of 180-degree visibility. Wide variety of lens colors, plus white and clear, is available. Lens screws into lampholder section which is machined of aluminum and finished in black alumilite. Mounting hole is 11/16-in., overall diameter is 7/8-in. and depth behind front of panel is 2 in. Resistor assembly held by unit is available for 120, 220 and 440-v service. Made by **H. R. Kirkland Co.**, 8010 King St., Morristown, N. J.

For more details circle NED-75 D5 on enclosed inquiry slip

PIPE THREADER ACCESSORY
cuts, grooves or bevels pipe

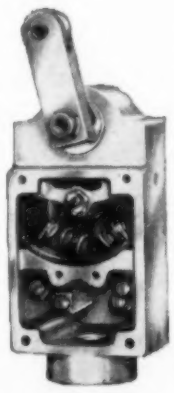


Accessory for the Port-A-Pony portable power pipe threader is a 12-lb pipe cutter which power-cuts 1/2 to 2-in. pipe in 30 seconds. Attachment to the 26-lb Port-A-Pony power drive requires 10 seconds. Spring-fed knives provide constant controlled pressure. Set of cutting knives is furnished, and grooving and beveling knives are available. Safety guide prevents gouging and burring. Made by **Thread-Ezy Mfg. Co.**, Dept. N, 324 Shiawassee St., Corunna, Mich.

For more details circle NED-76 D5 on enclosed inquiry slip

MACHINE TOOL LIMIT SWITCH
variety of actuators is available

Particularly suitable for machine tool control applications, model L-100S limit switch features trigger-fast snap action. Tests have shown it to withstand 25 million actuations with continuous repeat accuracy. Silver contact points are reversible, and the terminal compartment is separate from the switch compartment. Roller and pin of the standard actuator, as shown, are made of hardened steel, and the cast aluminum case is gasketed for oil and moisture resistance. Switch provides 70-degree overtravel, and it can be mounted at either side or from top. Electrical rating is 25 amp, 125 v ac-dc. Offered by **Acro Mfg. Co.**, 2042 E. Main St., Columbus 16, O.



For more details circle NED-77 D5 on enclosed inquiry slip

MANSFIELD LINE

COOLANT-PAC *with* MOLDED RUBBER PUMP

Model 2A1-H3

Non-Corrosive Abrasive Resistant

WORKS ON ANY MACHINE TOOL

$32.50 Complete
F. O. B. Bellville, Ohio

DEALERS WANTED — *Write for Folder*

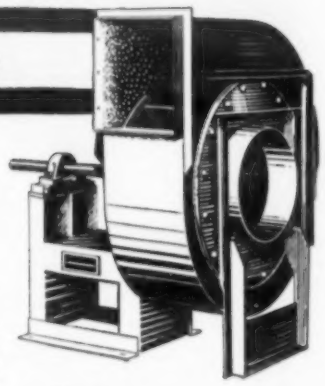
GORMAN-RUPP INDUSTRIES, INC.
Bellville, Ohio

For more details circle NED-78 D5 on enclosed inquiry slip

NOW from DRACCO!

performance proved

industrial fans



For All Air Handling Jobs
- General ventilation
- Dust collection
- Fume and high temperature exhaust work
- Conveying refuse, shavings, stringy materials

Dracco Industrial Fans—"Performance Proved" by 15 years' use with Dracco Dust Control systems—give longer, trouble-free service. Superior construction—welded, vibration-free, all steel elements, no castings to crack, precisely balanced, Rotation and discharge adjustable. Wide range of sizes—inlet diameters 11"-38", pressures to 17" S.P., volumes from 500-46,000 CFM. For better performance, specify Dracco Fans. For details, contact:

Write for 40-page Dracco Fan Bulletin No. 601 containing complete performance data and specifications.

DRACCO CORPORATION
4055 EAST 116th STREET
CLEVELAND 5, OHIO

For more details circle NED-79 D5 on enclosed inquiry slip

POSITIVE CLOSURE AGAINST LIQUIDS, DRY MATERIALS, SLUDGES

KEYSTONE VALVES

The ability of the KEYSTONE Valve to effect a positive seal against the flow of an almost endless variety of materials is only one of its outstanding features. It seals with equal efficiency against vacuum or pressure; its design simplifies installation and reduces maintenance; it is available in materials to meet specified requirements, and is used without gaskets between standard 150 lb. ASA welding neck or KEYSTONE flanges. Lever, gear, pneumatic, hydraulic or motor operated.

WRITE FOR BULLETIN NO. A-6

KEYSTONE TOOL CORP. Trade Mark Reg

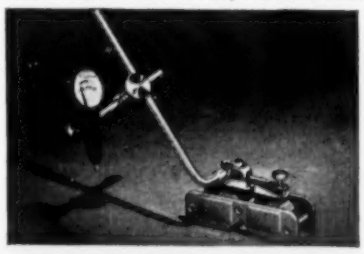
KEYSTONE TOOL CORP.
P. O. Box 6716 Telephone KE-1623 Houston, Texas
Representatives in principal cities throughout the world.

For more details circle NED-80 D5 on enclosed inquiry slip

INDUSTRY'S EXTRA HAND

MAGNETIC HOLDERS AND ACCESSORIES

Fast, easy to use in any position, Erick Magna-Holders and dependable, precision-built accessories increase productivity, accuracy, and safety on 1001 industrial jobs . . . for layout, inspection, maintenance, and production operations. Powerful, lifetime magnetic holders adhere to curved or flat surfaces. Write for complete catalog describing other Magna-Holder styles and variety of labor-saving accessories.



SUPERIOR, LOW-COST DIAL INDICATOR
Meets most exacting requirements. Reads both sides. Unconditionally guaranteed to repeat within one-thousandth! Complete 360° freedom in all directions. Grips firmly to machine surfaces. Complete with holder and swivel adaptor. No. 200BC only **$16.35**

FLOOD LIGHT
Adjusts to any position. Ball socket joint. Takes up to 100 Watt standard bulbs. Includes 6 ft. heavy-duty cord. Complete with magnetic base. No. 675...only **$8.50**

MAGNA-HOLDER ONLY
Powerful Alnico magnetic base creates 50 lb. pull. Precision thumb screw adjustment. No. 200B . . . only **$5.45**

ORDER DIRECT

GENERAL SCIENTIFIC EQUIPMENT CO.
GENERAL SAFETY EQUIPMENT
2701 W. HUNTINGDON ST., PHILADELPHIA 32, PA.
SAFETY EQUIPMENT FOR EVERY HAZARD
OPEN ACCOUNTS INVITED

For more details circle NED-81 D5 on enclosed inquiry slip

NO SHERLOCK HOLMES IS NEEDED TO FIGURE OUT

WHY A·B·C DRILL JIG BUSHINGS ARE PREFERRED

wherever highest engineering standards must be met!

- Made from only chromium or chromium tungsten oil hardening tool steels having wear resistance 18.5% above that of regular carbon water hardening tool steels
- Heat treated, including quenching, in neutral atmosphere, electronically controlled, under automatic timing. This insures high wear resistance right out to the initial working surface
- Dimensional accuracy insured by exacting inspection, including air gauging — plus most modern honing and grinding equipment
- Result: *unexcelled accuracy and concentricity, and approximately 20% longer service — 100% good right from the start*

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HEADLESS PRESS FIT • SLIP RENEWABLE
FIXED RENEWABLE • HEAD PRESS FIT
HEADLESS LINERS • LOCATING JIGS
LOCKSCREWS AND CLAMPS

- Catalog and price list sent on request. The former includes information needed by every tool engineer

Representatives and stocks in strategic industrial centers

ACCURATE BUSHING COMPANY

Department N-E-D *Main Office and Factory*
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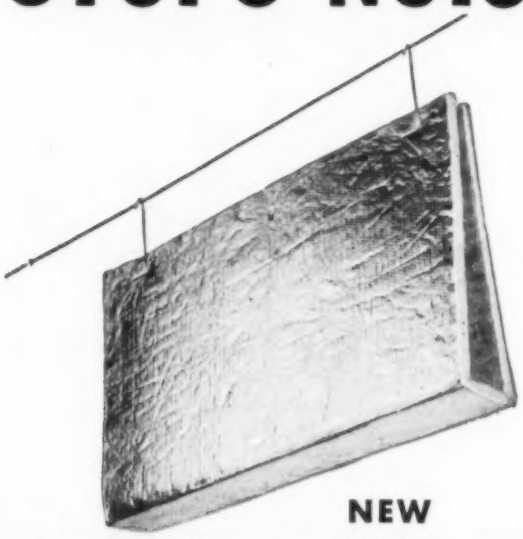
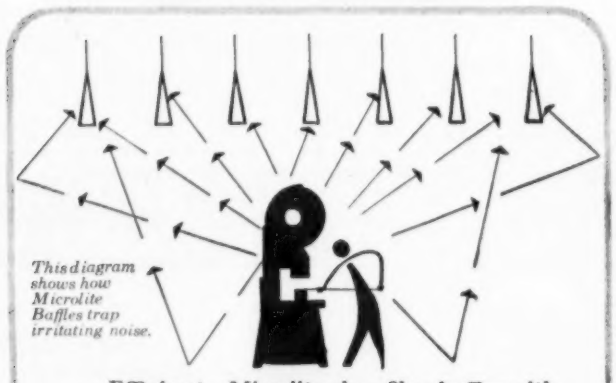
Engineering Office and Regional Warehouse
5722 W. Chicago Ave., Chicago 51 • ESterbrook 8-7180

For more details circle **NED-82 D5** on enclosed inquiry slip

STOPS NOISE!



NEW MICROLITE® ACOUSTICAL BAFFLES reduce reflected noise up to 60% at low cost



This diagram shows how Microlite Baffles trap irritating noise.

... Efficient—Microlite glass fiber baffles with unique wedge shape give greater noise reduction per dollar than any known sound-absorbing material.

... Lightweight—Baffles weigh only 1 lb. each. Made of long, fine glass fibers. Pleasant to handle.

... Easy to install—Hang them anywhere on light gauge support wires. No interference with existing fixtures. Your maintenance men can do the job without loss of production time.

... Foil faced—to reflect light and for cleanability. Also available plain for maximum economy

For complete facts on how Microlite Acoustical Baffles help solve noise problems, write today: L·O·F Glass Fibers Co., 1810 Madison Ave., Toledo 1, Ohio. ®Trademark Reg. U.S.A.

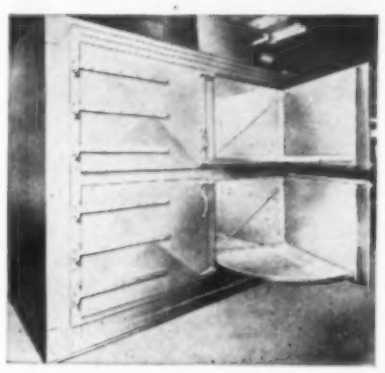
L·O·F GLASS FIBERS

Makers of glass fibers by the exclusive "Electronic-Extrusion" process

Manufacturers of Glass Fiber Textile Yarns, Roving, Mats, Thermal and Acoustical Insulations

For more details circle **NED-83 D5** on enclosed inquiry slip

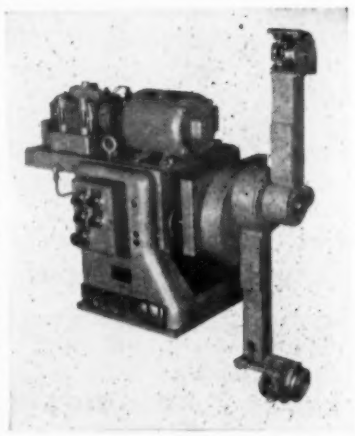
INDUSTRIAL OVEN doors have load-carrying shelves



Each compartment of this electric oven can be opened and the load changed without affecting the efficiency of the other compartments. It has four 4 x 4 x 3-ft compartments. Load is placed on a shelf that is integral with the door, and the load is carried inside when the door is closed. Fully automatic, oven has tubular heating elements, 5750 cfm adjustable air-flow blower powered by 7½-hp motor, damper-controlled adjustable fresh air intake and exhaust vent, and mechanical interlock which permits blower and exhauster operation without heat for purging. Electrical equipment includes Partlow indicating temperature controller, red pilot light for air circulation and green for heating system. Made by **Grieve-Hendry Co.,** 1408 W. Carroll Ave., Chicago 7, Ill.

For more details circle **NED-84 D5** on enclosed inquiry slip

LOADER & UNLOADER for automating machine tools where space limitations exist



Adaptable for use with such horizontal spindle machines as lathes and grinders, this automatic loader and unloader may be used where space limitations exist. It feeds a part to the machine from an incoming conveyor or a preceding machine and simultaneously removes finished parts from the machine to an outgoing conveyor. Two arms which swing through 180-degree arcs about a central axis clamp the work at their outer ends.

As both arms index through the same path, only 180-degree clearance is needed for the arms. To avoid striking each other as the arms pass, one arm is made shorter than the other and the central hub reciprocates about an eccentrically mounted shaft. Work clamps are operated by pneumatic cylinders and arm movement is through a cam-actuated mechanism, driven by an electric motor. Made by **Hautau Engineering Co.,** Dept. 1, 721 Wanda, Ferndale 20, Mich.

For more details circle **NED-85 D5** on enclosed inquiry slip

Cut "DOWN" time and Maintenance Costs

with the NEW K-500 Drain and Supply line Cleaner — for lines from 1¼ to 12"

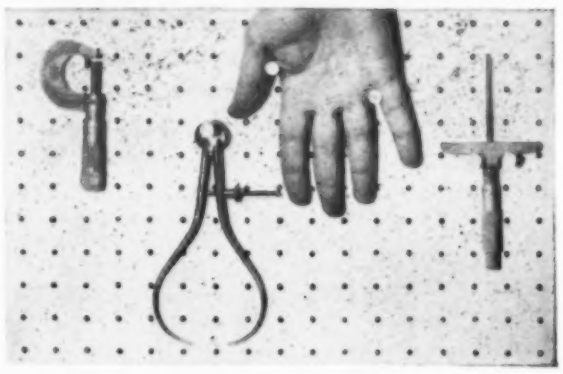
Especially designed for industrial maintenance departments the K-500 works wonders in opening clogged industrial or sanitary drains and supply lines. To reduce costly "down" time to a minimum, the K-500 is completely "packaged." The machine, sectional cables and assorted cutting tools are all carried on the ball-bearing wheel dolly from which the machine operates. Easily and safely handled by one man, this rugged and dependable machine drives up to 200′ of sectional cable through all traps and bends. (Larger power units are available for longer runs.) 700 R.P.M. cable speed assures fast and complete cleaning. Patented, instant-acting clutch provides finger-tip starting, stopping or reversing. Electric, air or gasoline power.

Hundreds of "famous names" have proved the superiority of Kollmann machines. Ask us about those in your field.

KOLLMANN MFG. CO. • ERIE, PA.

For more details circle **NED-86 D5** on enclosed inquiry slip

WHICH TOOLS COST YOU THE MOST?



Of All The Tools Illustrated Above, The Most Costly—by far —Are Your Worker's Hands! Your plant probably is spending thousands every year keeping tools and machinery in good shape. O.K.—that makes sense! But, what about the most expensive production tools you use — your worker's hands? Are you risking them on cheap, inefficient profit-stealing, irritating "bargain" soaps?

Send for descriptive literature offering a valuable SBS program for achieving skin health in your plant—for the very same amount of money you are now spending on ordinary hand soaps! Write to us today.

THE WASHWORD OF INDUSTRY

Sugar Beet Products Co.
Chemical By-Products Division
302 Waller St., Saginaw 33, Mich.

Canadian Subsidiary
Chemical By-Products, Ltd.
8 Ripley Ave., Toronto 3, Canada

For more details circle **NED-87 D5** on enclosed inquiry slip

Gerotor Hydraulic Pumps are . . . Designed to take it!

Gerotor's simple design and sturdy construction assures longer, trouble-free life for your hydraulic system!

Friction is the basis for all wear . . . Gerotor's exclusive rotor design cuts friction to a minimum. The Gerotor principle . . . heart of every Gerotor pump . . . is represented by a pair of gear-shaped elements, one within the other. Power is applied through the shaft to the inner Gerotor and is transferred in the closed mesh region to the outer Gerotor.

Each tooth of the inner Gerotor is in sliding contact with the outer Gerotor at all times, providing continuous fluid-tight engagement at very low contact speed. The contact points revolve only once in seven to nine revolutions, depending on the type of unit. ***This reduced friction permits higher shaft speeds, assures longer life.***

Due to high production facilities, Gerotor can produce special pump designs in ***quantities*** at an amazingly low price. Whatever your hydraulic pump problems, bring them to Gerotor.

FREE literature available . . . write:

GEROTOR MAY CORP.

1515 MARYLAND AVENUE • BALTIMORE 3, MARYLAND

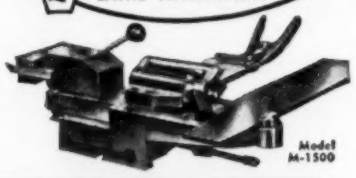
For more details circle **NED-88 D5** on enclosed inquiry slip

Precision DUPLICATING on ANY Engine or Turret LATHE

Lehigh TRACER-TOOL

PROFILE-TRACING LATHE ATTACHMENT

Time and money saver for short or production runs — on any metal



Model M-1500

PROVEN IN SHOPS OF EVERY SIZE

See our catalog and engineering sheets illustrating unlimited variety of turning, facing, boring, grinding and Bullard operations performed quickly and accurately with this low cost tool. No complicated hydraulic or electronic controls. Requires no permanent lathe alterations. Uses simple, easily made templates. Models to fit lathes 9" to 24" and larger.

AIR CONTROL DIVISION OF

Lehigh, Inc.

1503 LEHIGH DRIVE, EASTON, PA.

Mfrs. of LEHIGH Air Valves, Air Cylinders, Air Hoists, Air Motors

West Coast Distributor: CAMPBELL CONTOUR ATTACHMENT CO. 1320 W. Esther Street, Long Beach, Cal.

For more details circle **NED-89 D5** on enclosed inquiry slip

Control Horsepower
with the
A-C Starter Line
the RIGHT control
for every need

ALLIS-CHALMERS
Motor STARTERS

For across-the-line control of motors operating on 110 to 600 volts, Allis-Chalmers offers:

MANUAL STARTERS — Suitable for mounting on small machines. Start and stop buttons on starter. Sizes 0 and 1 for motors to 7½ hp.

MAGNETIC STARTERS — Provide convenience of local or remote control...thermal overload protection and undervoltage protection or release. Sizes from 0 to 7 for motors from fractional to 600 hp.

COMBINATION STARTERS — Save installation time and wiring costs when both a magnetic starter and disconnect switch are required. Sizes 0 to 5 for motors to 200 hp.

Contact your nearest A-C representative or write Allis-Chalmers, Milwaukee 1, Wisconsin for Bulletin 14B7132A.

ALLIS-CHALMERS A-4360

For more details circle **NED-90 D5** on enclosed inquiry slip

HOW TO MELT... and DISPENSE COMPOUNDS under PRESSURE

Heating and melting various compounds *efficiently* and *economically* under high speed production schedules offers no great problem to users of Sta-Warm compound melting tanks.

Now Sta-Warm offers two procedures for dispensing melted compounds with pressure. Mechanical pump pressure tanks and air pressure tanks are the answer. Whichever method fits your application best is available at Sta-Warm.

Pressure tanks may be coupled up with pre-heating "Melt-Down" tanks to make an installation that constantly supplies properly heated compounds under any practical production schedule from a few to many gallons per hour. For latest descriptive bulletin showing pressure tank capacities and typical installation write for the folder 043P, entitled "Sta-Warm Electric Low Pressure Tanks."

No obligation. Write today, outlining your requirements.

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO

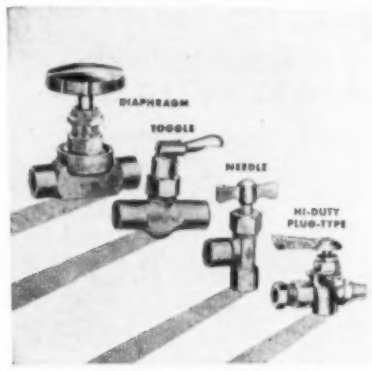
For more details circle **NED-91 D5** on enclosed inquiry slip

POTTED RESISTOR NETWORKS
contain any number of resistors

Resistance circuitry requiring miniaturization, rapid assembly, ease of replacement, maximum efficiency and design flexibility are applications of potted resistor networks. Any given number of wire-wound resistors of specified values are encapsulated into one compact unit of any shape or size specified by the user. Units are solid, hermetically sealed, lightweight, fungusproof, nonconductive and noncorrosive. Network resistance tolerances to 0.01-per cent are possible and ambient operating temperature may be up to 150° C. Cross-section can be square, round or rectangular and mounting can be wire lead, plug-in, screw or other style. Made by **I-T-E Circuit Breaker Co.,** Resistor Div., 1900 Hamilton St., Philadelphia 30, Pa.

For more details circle **NED-93 D5** on enclosed inquiry slip

FLUID CONTROL VALVES
in needle, toggle, diaphragm and plug types for liquids and gases

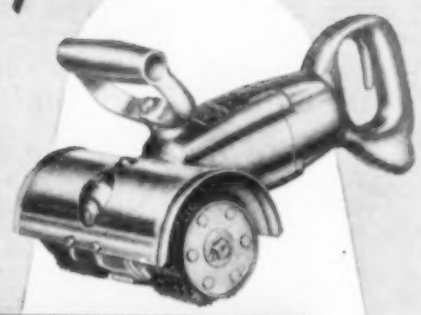


Needle, toggle, Hi-Duty plug and packless diaphragm type valves are included in line of fluid control valves for instrumentation, refinery, laboratory, air circuit, vacuum and pressure flow control purposes. Both panel mounting and in-line types are included. Needle valves for accurate regulation of flow have O-ring seals, fine threads, pressure range to 500 psi and sizes of ⅛ and ¼-in. Toggle valves for quick opening and closing have O-ring seals and synthetic rubber seats. They are spring-closing, while lifting lever opens valve. Maximum pressure is 200 psi in ⅛ and ¼-in. sizes.

Packless diaphragm two and three-way valves feature Teflon diagragms for pressure up to 300 psi and temperatures from −100 to 450° F. Especially adapted for vacuum service, valves have size range from ⅛-in. female pipe thread to ¾-in. flare connections and ⅞-in. OD solder connections. Two, three and four-way Hi-Duty plug type shut-off valves are offered in range of end connections for pipe sizes from ⅛ to ⅜-in. and tubes from ⅛ to ½-in. OD. Made by **Imperial Brass Mfg. Co.,** 510 S. Racine Ave., Chicago 7, Ill.

For more details circle **NED-94 D5** on enclosed inquiry slip

Chip Away



SCALE
RUST
PAINT

AURAND
CLEANING TOOLS
ELECTRIC OR PNEUMATIC MODELS

Surfaces are cleaned quickly with AURAND on the job. Hardened steel cutters zip away stubborn accumulations from iron, steel, brick, concrete. Adjustable depth shoe protects surface . . . assures uniform cleaning. No special skill required. Renewable cutter heads. Two sizes in both electric and pneumatic models. Lightweight.

Write Dept. 14 for complete details

AURAND MFG. & EQUIPMENT CO.
1210 Ellis St., Cincinnati 23, Ohio

For more details circle **NED-95 D5** on enclosed inquiry slip

CM Lodestar®

ENTIRELY NEW
differently NEW

FLEXIBLE LINK CHAIN

CAPACITIES: from ¼ to 1 ton. Single and 3 phase. ¼ ton model weighs only 51 pounds.

PUSH-BUTTON CONTROL

FEATURING:
- Push Button Control
- Self-Adjusting Heavy Duty Brake
- Sealed-in Lifetime Lubrication
- Overload Protection
- Fully Enclosed Components
- Lowest Headroom
- "CM-Alloy" Flexible Link Chain

$149.50 and up

Built to serve you for its normal life without maintenance

Lodestar is the first truly "heavy duty" version of the small electric hoist. The CM Lodestar is designed to operate without costly maintenance or interruptions in your work schedules. The initial cost is practically your only cost with a Lodestar ...an extremely low cost indeed!

CM HOISTS AND CHAIN

WRITE US or call your CM distributor for literature, prices and quick delivery from stock.

CHISHOLM-MOORE HOIST DIVISION
Columbus McKinnon Chain Corporation
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In Canada: McKinnon Columbus Chain Ltd., St. Catharines, Ontario

For more details circle **NED-96 D5** on enclosed inquiry slip

WHAT IS YOUR NAILING PROBLEM?

FMC HAS THE ANSWER

Many of the problems of industrial nailing which are troublesome to you today, may have already been successfully studied and solved by FMC nailing machine design and application engineers.

Problems arising from countless combinations of woods, materials, nailing patterns, speeds, space, manpower, pressures, feeds, mechanics, hydraulics and other variables have been resolved by our engineering department. From hundreds of case histories FMC can counsel with you on all phases of automatic nailing.

Why not take advantage of a backlog of 50 years of practical nailing experience to solve your nailing and box making problems.

Hand us your nailing problem. We believe we can give you a successful FMC answer to it from the scores of types, sizes and models of FMC nailing machines which have been built and are in successful operation by firms like yourself—who once also had a nailing problem!

WRITE, giving us full details—or request Bulletin

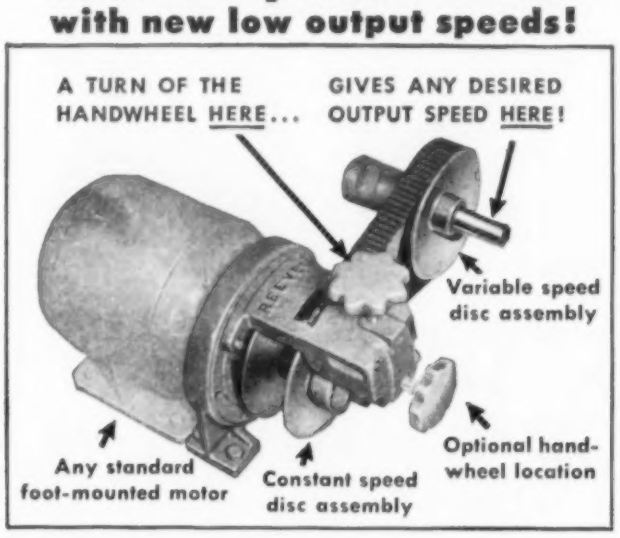
FOOD MACHINERY
AND CHEMICAL CORPORATION
NAILING MACHINE SECTION
NM-155 RIVERSIDE, CALIFORNIA

Send coupon for full details

FOOD MACHINERY AND CHEMICAL CORPORATION
NAILING MACHINE SECTION
RIVERSIDE, CALIFORNIA
Please send information on Nailing Machine Checked
☐ General Purpose Nailer
☐ Pallet Maker
☐ Multiple Spindle Drive Screw Driver
NAME_____
COMPANY_____
ADDRESS_____
CITY_____ STATE_____

For more details circle **NED-92 D5** on enclosed inquiry slip

REEVES
Flexi-Speed Drive
with new low output speeds!

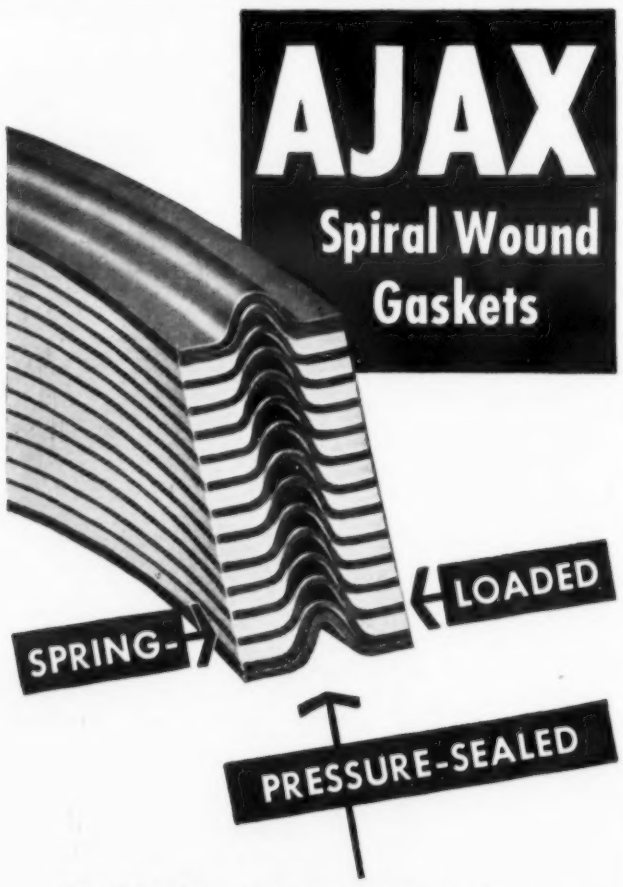


Mounts in any position . . . drives in any direction . . . gives any speed within 8:1 range . . . available in ½, ¾ and 1 hp. *Low Price!* Write today for details to Dept. ND91a-V552.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

For more details circle **NED-97 D5** on enclosed inquiry slip

AJAX
Spiral Wound Gaskets



■ AJAX Spiral Wound metal-asbestos gaskets provide positive seals at lower bolt loads because they are literally "spring loaded". The U-shaped form of the interlocking metal plies provides automatic reaction to mechanical compression, internal pressure variations and temperature changes. They "breathe" with variations in pipe line stresses and normal bolt relaxation.

And because they do not lose their resiliency under compression they may be used over again, should it be necessary to break the joint.

There are types and sizes for all standard flanges and for manholes, handholes and tube caps for all makes of stationary and marine boilers, water walls, economizers, etc.

Ask Your Industrial Distributor
or write for Catalog No. AG-953

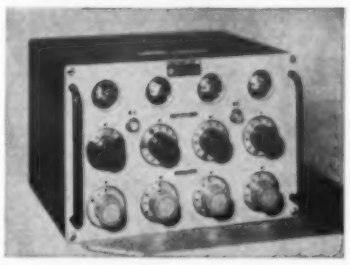
UNITED STATES GASKET COMPANY
CAMDEN 1, NEW JERSEY

USG

FABRICATORS OF FLUOROCARBONS & OTHER PLASTICS
Representatives in principal cities throughout the world

For more details circle **NED-98 D5** on enclosed inquiry slip

MACHINE TOOL CONTROLLER
2500-count capacity digital unit makes possible product uniformity

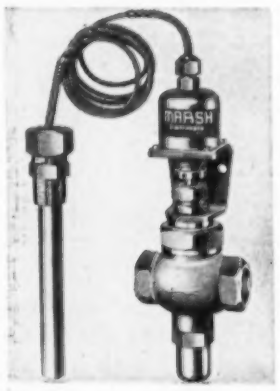


Compact automatic digital machine tool controller permits one man to supervise the operation of several machines and assures uniform production. The 8 x 10 x 7-in. device is connected to a machine which is then run through its cycle manually. An electronic transmitter sends pulses to a thyratron in the controller and the count is noted at the start and stop of the operation. For all succeeding operations the machine is controlled by these two counts preset by two sets of switches.

The digital controller contains two 50-position stepping switches which are connected to permit 2500 counts. A third stepping switch permits an increase to 25,000 counts. Device adds and subtracts automatically at rates up to 20 decimal digits per second with an accuracy of 0.04-per cent. Counts are stored in the count register and the number is shown on indicator tubes. Made by **American Electronic Mfg., Inc.**, Dept. N4, 9503 W. Jefferson Blvd., Culver City, Calif.

For more details circle **NED-99 D5** on enclosed inquiry slip

TEMPERATURE-ACTUATED VALVES
for controlling processing fluids in ranges from 20-60° to 160-220° F



Two temperature-actuated valves are available in ranges of 20 to 60°, 60 to 100°, 100 to 140°, 140 to 180° and 160 to 220° F. Type WT valve is designed to control flow of water, brine, oil, air or gas used in cooling and other industrial processes. It opens with rise and closes with drop in temperature. Direct-operated sizes of ⅜, ½ and ¾-in. F.P.T. and pilot-operated sizes of 1, 1¼, 1½, 2, 2½, 3 and 4 in. are offered.

Type H is used to control flow of hot water or low pressure steam. It closes with rise and opens with fall in temperature. Main application is in heat-exchangers and in heating. It is offered in direct-operated ⅜, ½ and ¾-in. F.P.T. and pilot operated 1, 1¼, 1½ and 2-in. sizes. Liquid pressure range is 150 psi; steam, limited to 15 psi. Both valves are made in various type bulbs with standard capillary tube length of 5 ft. Made by **Electrimatic Co.**, 3505 Howard St., Skokie, Ill.

For more details circle **NED-100 D5** on enclosed inquiry slip

Photo Courtesy of Seco Safety Products Co.

Flat-Folding, Rubber-Lined Hose For Quick, Sure Action Protection

Qua-Flex fire hose is specially constructed to fold flat. This makes it highly adaptable for storage on racks, even those designed for unlined linen hose. When hose is pulled from rack, pins drop easily and hose does not kink. It takes up less space than most other types of fire hose. It is quickly and easily dried after use.

This hose is ideal for use with a fog nozzle—an advantage over linen hose, and one that is usually found only in larger, heavier hose.

Qua-Flex is available in I.D. sizes 1½", 2" and 2½", all guaranteed to withstand a test pressure of 3000 p.s.i., in 25, 50, 75 and 100 foot lengths. Popular 1½" size has Factory Mutual Approval.

Write for folder and name of nearest distributor.

HKP

QUAKER RUBBER CORPORATION
Philadelphia 24, Pennsylvania

QUAKER PIONEER RUBBER MILLS
San Francisco 7, California

For more details circle **NED-101 D5** on enclosed inquiry slip

FOR COMPLETE PROTECTION
FROM THE WET • GREASE • OILS • ORDINARY ACIDS

TOWER'S
FISH BRAND
*NEOPRENE

These sturdy, durable, 100% DuPont **NEOPRENE** garments give that extra service to those who require protection from greases, oils, and most acids. There is a TOWER protective garment especially adaptable for every type of industrial activity. We will be glad to recommend the garment which best meets your individual requirements.

**A chemical rubber product of the DuPont Company*

For folder of styles and detailed information write Department SF.

NEOPRENE RUBBER

TOWER'S FISH BRAND — **A. J. TOWER CO.** — TOWER'S ARROW BRAND
24 SIMMONS ST., BOSTON, MASS.

For more details circle **NED-102 D5** on enclosed inquiry slip

NEW

Weld-Bilt
automatic
CONVEYOR-LIFT ELEVATORS
speed your production flow!

One of three Weld-Bilt elevators in the automatic plant of a leading Television Manufacturer

Weld-Bilt Products Include:

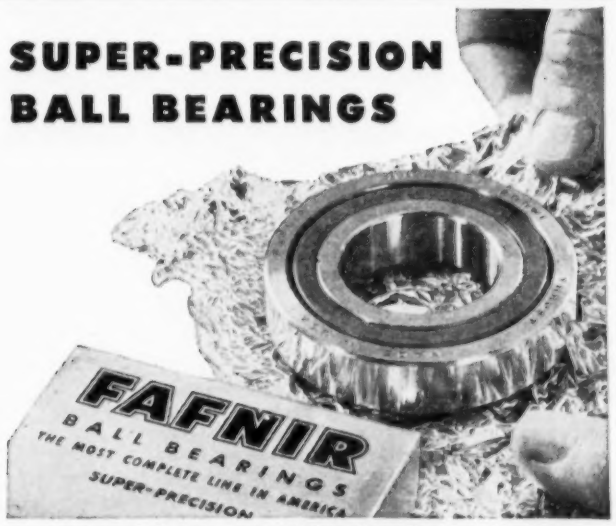
Here's a great time and man-saver where production flow demands *multiple-level* conveyor systems . . . It's a new Weld-Bilt development in AUTOMATIC Conveyor-Lift Elevators. Lifts or lowers packages or parts from one level to another, automatically selecting and lifting certain packages, passing others, if desired. Power rollers on lifting platform move load off in any required direction. All this is done without manual attention, to keep your production moving swiftly, without interruption.

The Weld-Bilt Automatic Conveyor-Lift can be built to any designed capacity, any height, with controls to handle any situation or need. Write today for details — or the services of a Weld-Bilt materials handling engineer. You'll save money, time, labor. Let us prove it!

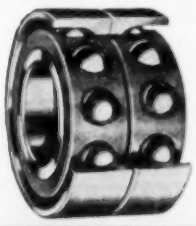
WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
311 WATER STREET, WEST BEND, WISCONSIN

For more details circle **NED-103 D5** on enclosed inquiry slip

SUPER-PRECISION BALL BEARINGS



For unexcelled protection, Fafnir Super-Precision Bearings are wrapped in aluminum foil. To command special care in handling, they're packed in gold-colored cartons.



For applications requiring high speeds, extreme accuracy and rigidity in such equipment as high grade machine tools, woodworking machines, jet engines, sensitive precision instruments etc., Fafnir manufactures a complete line of bearings in extra-precision tolerances. For details write the Fafnir Bearing Company, New Britain, Connecticut.

FAFNIR BALL BEARINGS
MOST COMPLETE LINE IN AMERICA

For more details circle **NED-104 D5** on enclosed inquiry slip

THIS BROCHURE describes the full line, complete with all specifications.

Available in seven models, with capacities from one-half to three tons. Every Tubarcrane has a three-position built-in extension boom—no extras to buy! Pumping effort is easily adjustable. Tilt-back mast provides more area for lifting bulky loads. Write for literature today!

Tubar CRANE

Manufactured by UHRDEN, INC. • DENNISON, OHIO

Jobber Territories Available

Also request literature on Tubar Hand Trucks, Platform Trucks, Tubarlifts

U-255-105

For more details circle NED-105 D5 on enclosed inquiry slip

new free catalog answers table-seating problems

Sico tip-top table

Quick folding, easy rolling table-bench combination. Table top is 15 square ft.—yet top and attached benches store in area only 1 ft. by 6 ft. Seats 8 adults comfortably. Table top is tough mellamine plastic. Folding frame is heavy, 14 gauge structural steel, zinc lustron plated for lasting protection and beauty. New single leaf design is functional, sanitary. Durable SICO quality construction suits unit to many applications—work table, cafeteria, employee lounges, even outdoors. Folds easily and quickly with no latches or locks. Table top measures 72 by 30 in. Vertical grain, fir benches are 6 ft. by 9 in. Big 4 in. rubber casters give portability. Available in other sizes and heights. Full specifications in FREE catalog.

fast-storing

in less space

at lower cost

Just off the press

Presents an entire new concept of industrial and institutional seating that saves time and space. Describes and illustrates each table and table-bench combination in the SICO line. Write today to:

SICO manufacturing co. 6049 Pillsbury Ave. S. Minneapolis 19, Minn.

For more details circle NED-106 D5 on enclosed inquiry slip

FLOORS BROKEN ROUGH OR UNEVEN? USE SWIFT-FLOOR

60 seconds after it's applied, you can truck 50,000 lbs. over it!

No need to stop or slow production for floor repairs. Use Swift-Floor. After just 60 seconds, you can put your floor back to work. SWIFT-FLOOR is skid-proof, fireproof, resilient, and self-sealing. SWIFT-FLOOR makes your broken floors better than new!

EASY TO USE

It's pre-mixed... ready to apply. Just prime, fill, tamp. Any workman can do it.

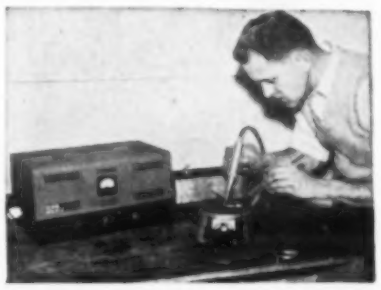
GUARANTEED!

If you're not satisfied with SWIFT-FLOOR, return the unused portion. Your money will be refunded. Write for Bulletin "60 Swift Seconds". AA-735

THE MONROE COMPANY, INC.
10708 Quebec Ave. • Cleveland 6, Ohio

For more details circle NED-107 D5 on enclosed inquiry slip

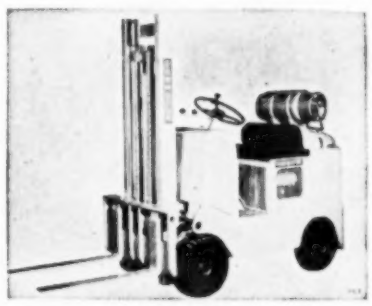
ULTRASONIC SOLDERER
joins wires and bonds small parts



Fluxless soldering of wires, small parts and repair of aluminum castings is performed quickly with this hand model Sonobond model S-1-H-54-12 ultrasonic soldering device. Light and easy to handle, tool has ample power in its 1/8-in. tip to tin aluminum, copper, brass, magnesium or silver rapidly. Heat required for soldering is supplied by 600-w platen. Equipment includes ultrasonic generator, heating platen and ultrasonic soldering head. Made by **Aeroprojects Inc.**, 314 E. Rosedale Ave., West Chester, Pa.

For more details circle NED-108 D5 on enclosed inquiry slip

LIFT TRUCKS
available with LP gas fuel systems



All Towmotor lift trucks are now available with LP gas fuel systems as well as with gasoline systems. Advantages of LP gas system are, reportedly, low fuel costs, long engine life, complete fuel combustion which prevents oil dilution and carbon deposits, no engine knock, long spark plug life, greater mileage from oil, minimum carbon monoxide and safe operation. Offered by **Towmotor Corp.**, 1219 E. 152nd St., Cleveland 10, O.

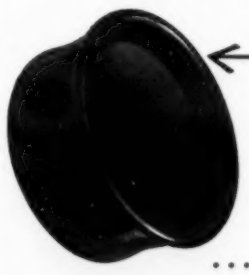
For more details circle NED-109 D5 on enclosed inquiry slip

ADJUSTABLE SPEED CONTROL
for dc motors from ac lines

Direct current motors ranging in size from 1.10 to 29 hp can be operated on single and three-phase alternating current for infinitely adjustable speed service with this Cosmo-Trol. Speed is controlled by simple turn of calibrated knob. Controls are stable and have long life. Made by **Cosmo Engineering Laboratories, Inc.**, Dept. NE 1, P. O. Box 348, Hackettstown, N. J.

For more details circle NED-110 D5 on enclosed inquiry slip

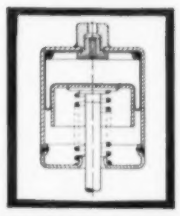
NEW



FLANGELESS BEAD-TYPE

Bellofram* PISTON SEAL

. . . easy to apply



NEW CLASS 1 BELLOFRAM

The new solid head Class 1 Bellofram is a long stroke, deep convolution piston seal diaphragm developed for all pressure sealing applications. With the "O" ring bead-seal characteristic, it will operate efficiently at pressures up to 500 p.s.i. — or up to ten times the rating of ordinary diaphragm seals.

EASE OF APPLICATION SIMPLIFIES YOUR DESIGN PROBLEMS

Actuators using Class 1 Belloframs have longer stroke — are smaller, lighter, much easier to design and manufacture — do not require costly machining or precision alignment. Bellofram's *rolling action* (not sliding) minimizes friction losses. Dynamically stable Belloframs are made of modern fabrics and elastomers for high resistance to fatigue and extreme cycle life. The bead is not subject to operational stress, due to provable wall-friction coefficients and narrow semi-circular convolution of diaphragm under pressure.

FLANGELESS BELLOFRAMS FOR YOUR APPLICATION

Put this major improvement in piston seal design to work for you now. Bellofram's unduplicated features include resistance to vibration and chemical action — operation over a wide temperature range — elimination of leakage — control of effective area to within 0.1% over complete working stroke. No lubrication needed — no maintenance except simple, infrequent replacement — accurate, economical operation where ordinary seals fail. Outline your application and submit a sketch to find out how a standard or custom-engineered Class 1 Bellofram can solve your pressure application problems. Your data considered confidential. Write today.

* Trademark

Bellofram CORPORATION
149 MOODY ST WALTHAM MASS

For more details circle NED-111 D5 on enclosed inquiry slip

5411

"ONE MAN CREW"

When you see PORTELVATOR (R) (the handy Hamilton portable elevating table) doing the lifting and moving jobs which previously required the combined strength of three or more husky men you will know why so many present users call it a "one man crew."

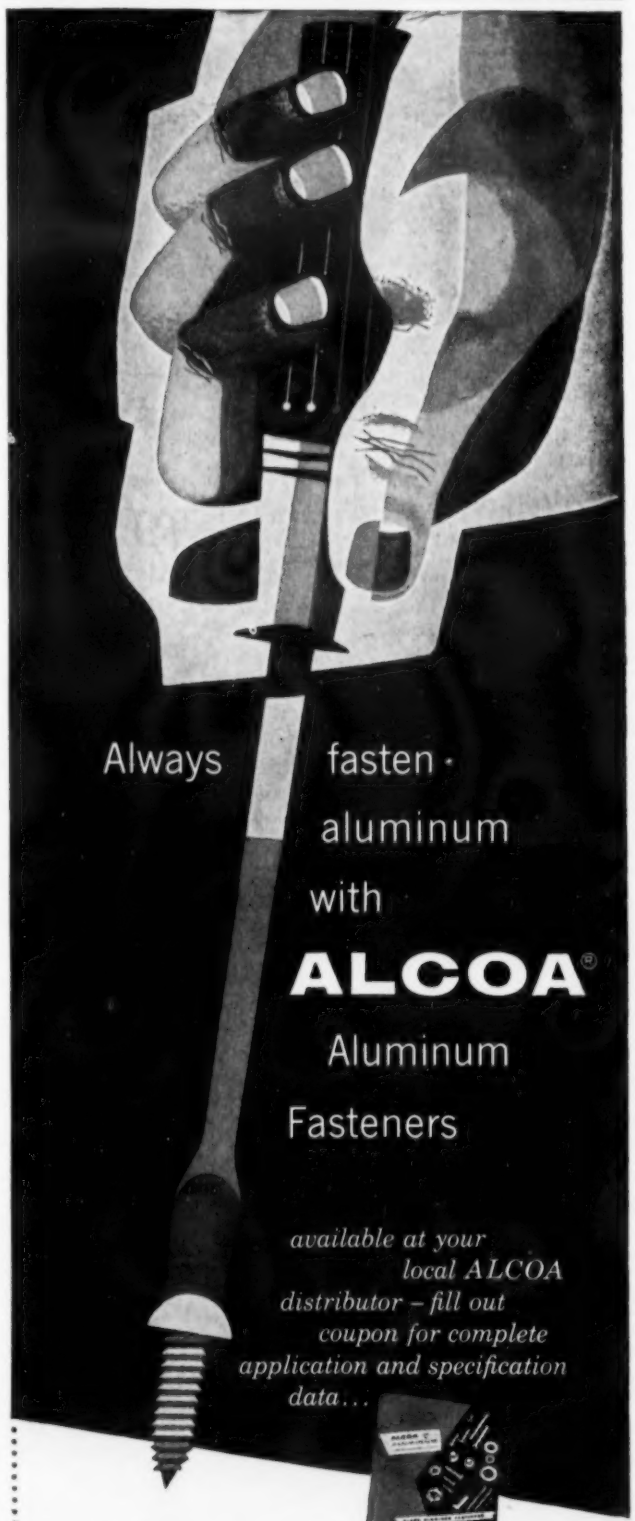
(Prices start at $155.00*)
Get one—and start it to work in your operation.

WANT THE COMPLETE FACTS? Write for Bulletin No. 5411—Address The Hamilton Tool Company, 901 Hanover Street, Hamilton, Ohio.

IT'S A Hamilton Tool
USE IT WITH CONFIDENCE

*Prices subject to change without notice.

For more details circle NED-112 D5 on enclosed inquiry slip



ALUMINUM COMPANY OF AMERICA
2245-D Alcoa Bldg., Pittsburgh 19, Pa.

Gentlemen: Please send complete specification data and samples of your aluminum fasteners.

Name _____

Title _____

Company _____

Address _____

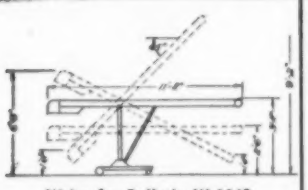
For more details circle NED-113 D5 on enclosed inquiry slip

New- Maguire BOOSTER DESCENDER

Specifications:

Capacity: 500 lbs.
Length: 10' and 15'
Adjustment: Incline 45° to Decline 30°
Pedestal: 26" to 42" hydraulic jack adjustment, foot operated floor lock
Power: ¾ h.p. Gearhead Motor, single or triple phase
Switch: START – STOP – REVERSE
Belt: 12" ribbed rubber belt assures non-slip operation

Can be modified to meet your special needs.



Write for Bulletin W-1049 on Maguire Conveyor.

MAGUIRE MACHINERY CO., INC.
60 E. 42nd Street
New York 17, N. Y.

▲ For more details circle NED-137 D5 on enclosed inquiry slip ▲

CRANE WHEELS AND WHEEL ASSEMBLIES

INSTALL THESE WHEEL ASSEMBLIES complete with axles, bearings, drive gears, grease fittings and all necessary parts for a complete installation. There are sizes, types, and styles of mounting to suit every requirement.

DOUBLE FLANGED WHEELS range in standard tread diameters from 7½" to 24"; SINGLE FLANGED WHEELS from 4" to 8". Wheels are available unmounted or in completely assembled units.

WRITE FOR CATALOG — Complete line of Downs Crane Wheels and Assemblies are illustrated and described in new Catalog No. 3540. Specifications included. Write today!

DOWNS CRANE & HOIST CO.
MECHANICAL ENGINEERS
540 W. VERNON AVENUE
LOS ANGELES 37, CALIF.

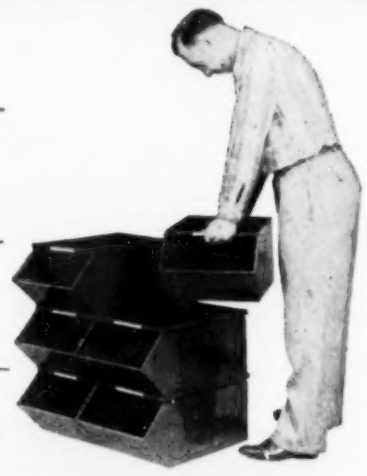
Electric Cranes • Hand Cranes • Jib Cranes • Sheaves • Sheave Blocks
Plate Grips • Plate Hooks • Crane Trolley Hoists • Crane Wheels • Crane End Truck Units • Jib Crane Fittings • Automatic Mechanical Load Brake Crane Hook Blocks

▲ For more details circle NED-138 D5 on enclosed inquiry slip ▲

Save **TIME**

Save **SPACE**

Save **LABOR**



See Booth #1133
Nat'l. Material Hand. Show
Chicago, Ill.

Easy-to-store, easy-to-stack, easy-to-handle STACKBINS® speed and simplify parts and materials handling.

In Production: STACKBINS carry parts between operations.

In Assembly: STACKBINS replace open pans and boxes.

In Storage: STACKBINS keep parts instantly accessible — eliminate waste motions — stack solidly, compactly to form units tailored to your space limitations and capacity requirements.

Heavy, all-welded steel. Seven standard sizes from 3½" x 6" x 3¼" to 15" x 24" x 11". Special purpose STACKBINS also available.

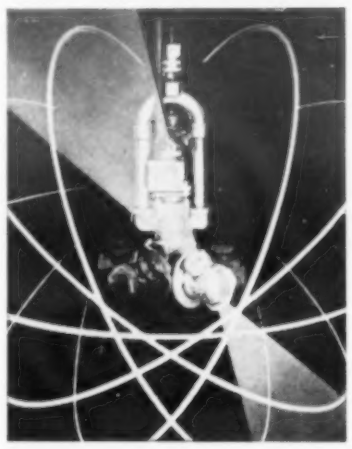
WRITE TODAY FOR FULL INFORMATION.

Stackbin Corporation, 1081 Main St., Pawtucket, R. I.
Mfgd. & Sold exclusively in Canada by: Wickware-Stackbin, Ltd., Ottawa

STACKBIN® SYSTEM
"Stacked and Still Accessible"

▲ For more details circle NED-139 D5 on enclosed inquiry slip ▲

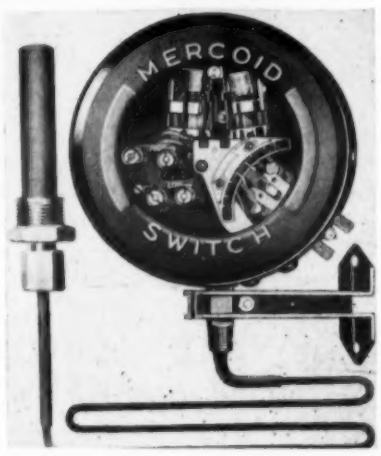
JET TANK CLEANER has three-dimensional rotation



Two powerful streams of hot or cold water, with or without detergents, are delivered over entire inside surface of any shaped tank with this Rotor-Jet tank cleaner. Unit provides three-dimensional rotation of high-pressure hydraulic jet. Fully portable, device can be lowered through the tank access by means of its supply hose, and workman need not enter tank. Cleaning speeds are adjustable as needed for light cleaning, rinsing or longer hydraulic scrubbing to remove stubborn soils or deposits. Jet head is rotated pneumatically and is available in three models with discharge capacities from 600 to 6000 gph. Made by **Sellers Injector Corp.**, 1602-Z Hamilton St., Philadelphia 30, Pa.

▲ For more details circle NED-140 D5 on enclosed inquiry slip ▲

TEMPERATURE CONTROL two-stage unit incorporates two independent mercury switches



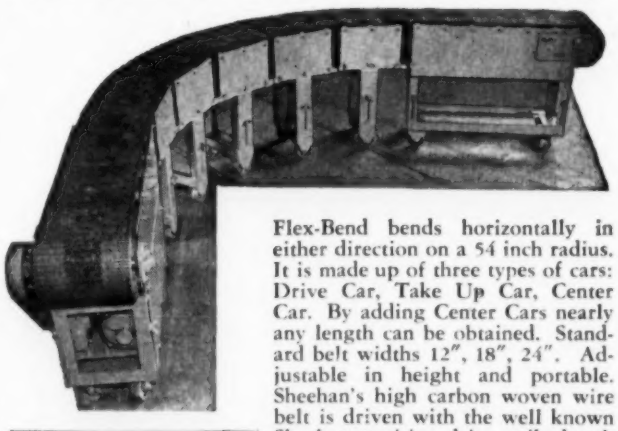
This two-stage temperature control provides advantage of staged operation from single-actuating bourdon tube. Unit incorporates two independently adjustable magnetic mercury switches which provide for successive stage operation or high-low operation. Typical applications are to close one alarm circuit at high temperature and another at low temperature setting; as an electrical interlock to open one circuit as temperature rises above, and second circuit as temperature drops below set operating points; or to provide two-stage control by opening one circuit on rise in temperature and second circuit on a further rise.

Controls can be furnished in 11 different operating ranges and are equipped with external adjustments and a visible calibrated dial. Standard steel, weatherproof and explosionproof cases are available. Made by **Mercoid Corp.**, 4223 W. Belmont Ave., Chicago 41, Ill.

▲ For more details circle NED-141 D5 on enclosed inquiry slip ▲

Sheehan's FLEX-BEND CONVEYOR

Place your equipment where you like, Flex-Bend gets there horizontally.



Flex-Bend bends horizontally in either direction on a 54 inch radius. It is made up of three types of cars: Drive Car, Take Up Car, Center Car. By adding Center Cars nearly any length can be obtained. Standard belt widths 12", 18", 24". Adjustable in height and portable. Sheehan's high carbon woven wire belt is driven with the well known Sheehan positive drive spiked pulley. Flex-Bend rolls completely on roller and ball bearings. Cuts down friction, giving long life. Rigidly built, easy to move. Practically maintenance free.

Flex-Bend is sold by the car. Write for literature, and exceptionally low prices.

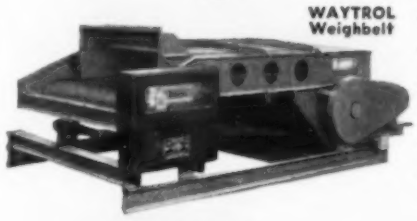
Conveyors

R. T. SHEEHAN CO.
8070 N. Territorial Road Plymouth, Mich.

▲ For more details circle NED-142 D5 on enclosed inquiry slip ▲

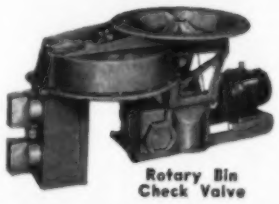
Jeffrey-Traylor WAYTROL feeds and weighs continuously

Electric Vibrating Feeder



WAYTROL Weighbelt

The Jeffrey - Traylor WAYTROL Constant Weight Feeder provides guaranteed accuracy. WAYTROLS and related equipment like units shown are now serving many industries handling scores of products in weighing and proportioning systems.



Rotary Bin Check Valve

Other Jeffrey-Traylor Equipment

FEEDERS CONVEYORS
DRYERS SCREENS
PACKERS CONTROLS
COOLERS BATCHERS

THE JEFFREY MANUFACTURING CO.
Columbus 16, Ohio

IF IT'S MINED, PROCESSED OR MOVED ...IT'S A JOB FOR JEFFREY!

sales offices and distributors in principal cities

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Here's BIG HELP IN TERMINAL WIRING!

The correct wire to correct terminal every time!

The New JONES FANNING STRIP

Connections are made through Fanning Strip on bench or anywhere apart from barrier strip, and quickly slipped into assembly.

Designed for use with Jones Barrier Terminal Strips Nos. 141 and 142, for 1 to 20 terminals.

9-141 Barrier Strip

Simplifies and facilitates soldering. Insures positive correct connections. Saves time. Ideal for harness or cable assembly. Strong construction: Brass terminals, cadmium plated. Heavy bakelite mounting.

9-161 Fanning Strip. Pat. applied for.

Send for complete data on this new basic improvement!

Jones — HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

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ROTO FINISH — *it's the finish that counts!*

Roto-Finish maintains exact tolerances on precision parts with no significant dimensional changes. It makes possible a wide range of finishes applicable to parts of almost any size or shape; finishes a variety of materials — at big savings in manpower and costs. Without obligation, send sample unfinished parts to us. Include finished part for guide and your specifications. Roto-Finish will finish parts in its laboratory. You get a complete process report. You are guaranteed results and a finish that counts!

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Roto-Finish COMPANY
3702 MILHAM ROAD, KALAMAZOO, MICH.
P. O. Box 988 — Phone 3-3578

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Angle pocket milling
Angle shaping
Angle grinding
Angle drilling
Angle milling
Angle checking

on standard machines with a Wesson Precision Angle Vise

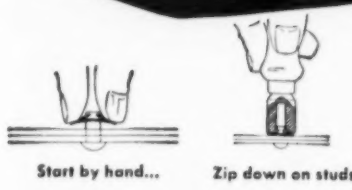
2 models immediately available
4" maximum jaw opening, 4" jaw width
1⅜" maximum jaw opening, 3" jaw width

Ask for illustrated bulletin describing Wesson Universal Vises and Angle Plates.

Wesson Products Company
1220 Woodward Heights Blvd. • Detroit 20, Michigan

For more details circle NED-146 D5 on enclosed inquiry slip

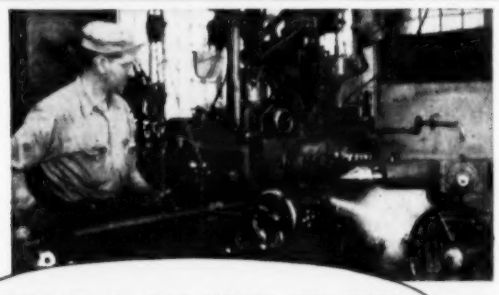
Cut Fastener Costs 25% or More with Tinnerman Push-On Speed Nuts®



New Tinnerman Push-On Type SPEED NUTS offer the ultimate in fastening economy and efficiency. They cost less than ordinary fasteners, eliminate costly threaded parts. These one-piece, self-locking, spring steel fasteners start by hand, zip down over integral studs, rivets, tubing, nails, any unthreaded parts. They provide a bite lock on smoothest, hardest surfaces . . . vibration-proof attachments on all popular stud sizes, round, D-shaped, rectangular. Write for literature and free production samples.

TINNERMAN PRODUCTS, INC.
BOX 6688, DEPT. 12, CLEVELAND 1, OHIO

For more details circle NED-147 D5 on enclosed inquiry slip



CLEAN UP IN ONE-TENTH THE TIME!
Without added manpower

HYPRESSURE Jenny STEAM CLEANER

CUTS CLEANING COSTS 90%—REDUCES PLANT FIRE HAZARDS

The man-hours Jenny saves cleaning machinery, floors, walls, tables, benches, vats, bins, and equipment, can repay its cost three or four times a year—sometimes on a single job! Ten times faster than hand methods, it steam cleans, sterilizes, deodorizes; even strips paint. Its removal of grease and inflammables which start or feed fires makes Jenny an excellent fire preventive. Any investment that repays its cost as quickly as Jenny is a good investment; a "must" to offset today's rising operating costs. For full story of how to cut cleaning costs by 90% and reduce fire hazards . . .

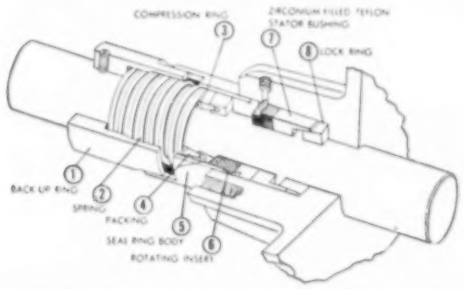
Write today for catalog and full information.

HYPRESSURE JENNY DIVISION
HOMESTEAD VALVE MANUFACTURING COMPANY
Serving Since 1892
P.O. BOX 84 CORAOPOLIS, PA.

For more details circle NED-148 D5 on enclosed inquiry slip

MECHANICAL SEAL operates under slurry conditions

Stator bushing of style WLZ wedge-lock mechanical seal is fabricated of zirconium-filled Teflon molded on pure Teflon. This permits seal to operate under



slurry conditions or for operations where carbon cannot be used because of chemical properties of material being pumped or mixed. Seal is designed for complete interchangeability with stuffing box packing in pumps and other rotating processing equipment. Pressures on suction side can be up to 35 psi and temperatures up to 500° F. Seals are available in standard shaft sizes. Made by **Chemical & Power Products, Inc.**, Dept. ND-1, 11 Broadway, New York 4, N. Y.

For more details circle NED-149 D5 on enclosed inquiry slip

PROFILE GRINDERS will grind variety of cutters, including convex and concave types

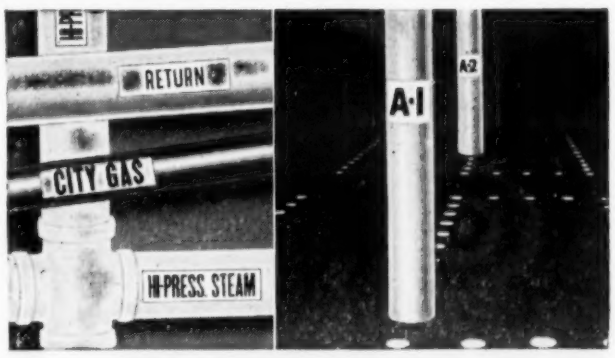
A horizontal wheel head and a revolving workhead on preloaded tapered roller bearings are the working units which comprise improved No. 3 Tangent - Arc profile grinder. Machine will grind radii on straight or spiral, side or face milling, angular and ball end cutters as well as end mills. Capacity on convex cutters is half circle up to 2½-in. radius and 120-degree arc up to 4-in. radius; on concave cutters, 0 to 5-in. radii.

Unit will grind clearances on straight or spiral teeth at 0 to 90 degrees from cutter axis, with up to 5-in. length of cut, as well as profiles composed of any combination of circular arcs and angles. Other capacities include arbor cutters up to 10-in. diameter and 5-in. face; shank cutters held by shank with maximum 10-in. diameter; No. 11 Brown & Sharpe TaperShank with 5-in. length of cut; and shank cutters held by centers having 4¾-in. diameter and 5-in. length of cut with 10-in. overall cutter length. Attachments are offered. Made by **Union Twist Drill Co.**, Dept. N-1, Athol, Mass.

For more details circle NED-150 D5 on enclosed inquiry slip

Self-Sticking Markers Cut Maintenance Time and Costs

Manufacturer: W. H. Brady Co., 758 W. Glendale, Milwaukee 12, Wis.

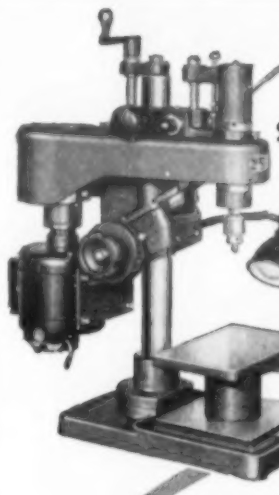


Self-Sticking Markers which cut maintenance time and costs are available from the W. H. Brady Co., Milwaukee. One of their widely-used products, All-Temperature Pipe Markers, stick permanently to pipes as hot as 300°F. Millions of them in use in plants of all types today. They conform to ASA standards and give you a fool-proof and economical method of pipe identification.

Brady Self-Sticking Dotted Line Aisle Markers offer a fast, low-cost way to mark aisles. They are so tough they outwear painted lines 5 to 1. Miles and miles of aisles are so marked today in plants everywhere.

A quick, economical method for marking areas, bays, bins, pallets, etc., is found in Brady Self Sticking All-Purpose NUMBERS and LETTERS. These individual NUMBERS and LETTERS let you make up signs, codes and markings right on the spot. Stocked in six sizes, these handy Markers fit many plantwide Marking needs perfectly. Advt.

For more details circle NED-151 D5 on enclosed inquiry slip



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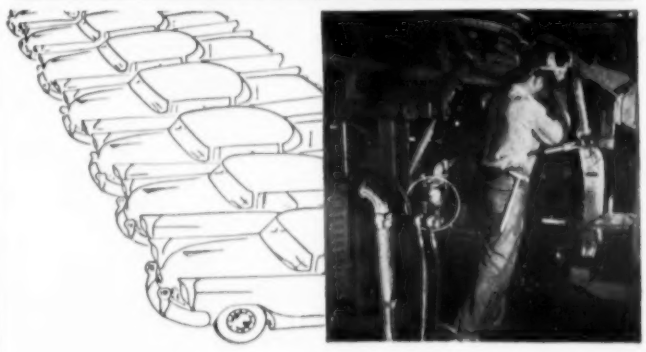
PRECISION
SMALL HOLE DRILLING
Should always be done on the
HAMILTON VARIMATIC®

STURDY
BENCH TYPE
VARIABLE SPEED
SUPER SENSITIVE
PRECISE

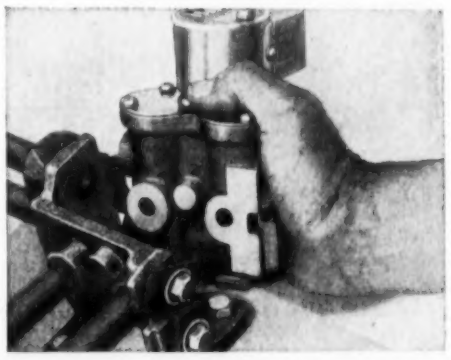
For complete information write for our FREE Bulletin No. 5413. Address
The Hamilton Tool Company,
901 Hanover Street, Hamilton, Ohio.

IT'S A Hamilton Tool
USE IT WITH CONFIDENCE

For more details circle NED-152 D5 on enclosed inquiry slip



THEY BUILD ANOTHER CAR IN THE TIME SAVED...



How much production do *you* lose when a valve breaks down? In less than a minute you can take a Crescent® sub-base mounted four-way air valve from the line and be back in service with a new one.

But that is not the whole story. Crescent® valves are accepted on production line equipment in major automotive plants, that means they have to perform a minimum of 10 million cycles without service or breakdown.

If you are using air valves in your plant and they are not Crescent® valves, you are paying too much for them—in lost production.

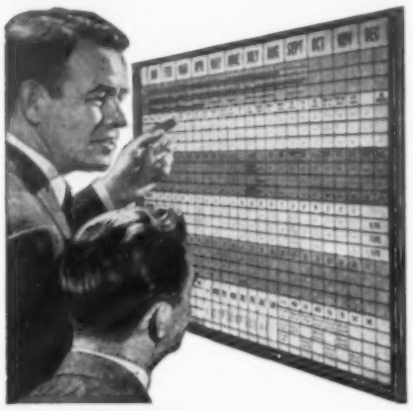
Write for the informative free literature on standard and sub-base mounted four-way air valves (to 150 P.S.I.). Also available with explosion-proof solenoid housing.

BARKSDALE VALVES
5125 Alcoa Avenue, Los Angeles 58, California

NAME _____ TITLE _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

For more details circle NED-153 D5 on enclosed inquiry slip

GRAPHIC VISUAL CONTROL



THE BOARDMASTER SYSTEM

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- ★ Facts at a Glance—Saves Time and Eliminates Confusion
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Complete Price $49.50 Including Cards

FREE 24-Page ILLUSTRATED BOOKLET N-400 Without Obligation

GRAPHIC SYSTEMS, 55 West 42nd St., New York 36

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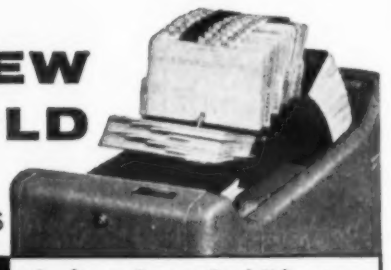
THE NEW DIEBOLD ROTARY CARD FILES



for PERSONNEL INVENTORY MAINTENANCE PRODUCTION AND ALL OTHER ACTIVE RECORDS

Cardineer Rotary Card Files simplify and speed practical record controls at lowest cost. They save 40% in time . . . cost half as much . . . take half as much space as other files. Motorized and manual models available for all sizes and quantities of records. Write today for information-packed booklet, "Across The Land It's Cardineer."

Diebold® INCORPORATED 1008 Mulberry Rd., S. E. CANTON 2, OHIO

N-154-DI

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INSPECT HARD-TO-SEE AREAS

FAST... ACCURATELY

New Multi-Purpose G-S ILLUMINATION KIT

Accuracy of production and inspection is increased . . . work is speeded and simplified . . . precise measurements of small, difficult-to-reach areas are easily determined when you use the new G-S Syte-Ayde.

Powered by ordinary pen-size flashlight batteries, the Syte-Ayde is equipped with 4 light-transmitting rods. Two are straight, 3½" and 6" long, and two, of the same lengths, are bent to 90 degrees. Three 1½ power mirrors, ½", ¾", and 1" in diameter, are supplied to fit rod ends. Complete in plastic case.

2 KITS COMPLETE: $10.00

ORDER SYTE-AYDE DIRECT SAMPLE: $5.50 POSTPAID

GENERAL SCIENTIFIC EQUIPMENT CO.
GENERAL SAFETY EQUIPMENT
2701 W. HUNTINGDON ST., PHILADELPHIA 32, PA.

SAFETY EQUIPMENT FOR EVERY HAZARD

OPEN ACCOUNTS INVITED

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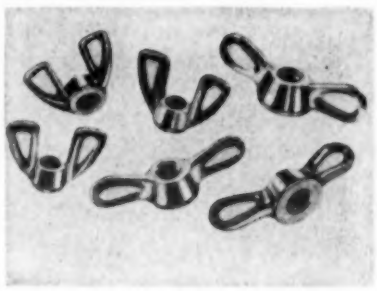
BAR & TUBE FEEDER
conveys at 5 to 20 fpm

Automatic feeding of bars and tubes to centerless grinders, polishing machines, heat treating and hardening equipment is function of the model 1700 B feeder. Model illustrated conveys parts from ¼ to 1½ in. diameter and 6 to 26 in. long at any desired constant speed from 5 to 20 fpm from hopper to machine. Other models are available up to 60 in. long with various rates of feed. Cycling control can be either by photoelectric relay or mercury switch. Delivery can be as illustrated or at right angles by use of special tooling. Made by **Feedall, Inc.**, Dept. ND, 38399 Pelton Rd., Willoughby, O.

▲ For more details circle **NED-157 D5** on enclosed inquiry slip ▲

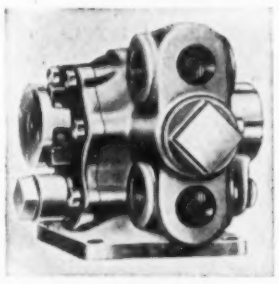
WING NUTS
high and low wing types



When lack of sufficient overhead or side space prohibits use of standard wing nuts, these High Wing and Low Wing nuts can be employed. The low wing type has a lower-than-normal wing height and wider-than-normal wing spread. The high wing nut has a narrow, higher-than-average wing spread. Both types are offered for special needs and feature GRC Finger-Grip recessed wings and clean threads. They are cast of nonferrous, corrosion-resistant zinc alloy and offered in all commercial finishes, if desired. Made by **Gries Reproducer Corp.**, 400 Beachwood Ave., New Rochelle, N. Y.

▲ For more details circle **NED-158 D5** on enclosed inquiry slip ▲

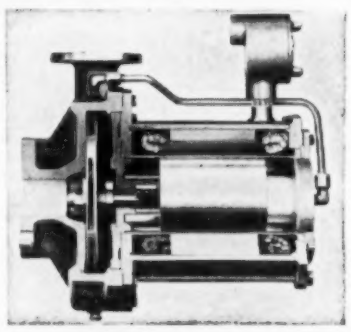
HYDRAULIC VALVE
four-way type positions cylinders



Hydraulic cylinders in such equipment as bulldozers, road machinery, hydraulic lifts, power tools and farm machinery can be positioned by the Cash-Standard type 555-RO four-way rotor-actuating valve. The single self-contained mechanism actuates one to three cylinders, is designed for 300 to 1500 psi and has a capacity of 400 gpm at 1500 psi. Features include full-floating position, built-in bypass to minimize piston creep and ball bearing construction. Made by **A. W. Cash Co.**, Dept. NED, P. O. Box 551, Decatur, Ill.

▲ For more details circle **NED-159 D5** on enclosed inquiry slip ▲

LEAKPROOF PUMP
of seal-less design for high heads

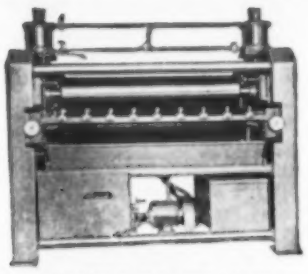


Added to the line of leakproof Canned-Rotor centrifugal pumps, model CFH is rated 1½ hp and delivers up to 53 gpm at heads to 150 ft. Cast iron, stainless steel, Monel or Carpenter-20 constructions are available in these seal-less pumps which combine the motor and pump in single casing. Pumped fluid is allowed to circulate through the rotor chamber of the motor, isolated from the stator parts by a stainless steel liner. This circulation serves to lubricate the bearings and cool the motor. Model CFH pump handles corrosive, explosive and other problem fluids at temperatures to 450° F and pressures to 300 psi. Made by **Chempump Corp.**, Station D, 1300 E. Mermaid Lane, Philadelphia 18, Pa.

▲ For more details circle **NED-160 D5** on enclosed inquiry slip ▲

UNION AUTOMATIC COMPOUND SPREADERS

SAVE *8 WAYS



1 "Die life increased 75%."
2 "Production increased 20%."
3 "Compound saving of 16%."
4 "Rejects reduced 10%."
5 "One helper eliminated."
6 "Paid for itself in 54 days."
7 "Able to use salvage stock for some operations."
8 "25,000 more pieces before changing dies."

MODELS TO FIT ANY STOCK UP TO 96" WIDTH

Union is the foremost designer and manufacturer of roller coating machines for application of drawing or stamping compounds and protective coatings.

Models may be equipped with hardened steel, or with neoprene-covered rolls—also with heated or cooled rolls—to meet your individual requirements.

*The above claims are based on actual statements by users, both large and small—a number of whom have ordered a second and third machine.

Complete data and agent's name on request. Union will design and/or manufacture coating machines to meet your specific requirements.

Union Serves Over 2500 Satisfied Customers

UNION TOOL CORP.
318 E. MARKET ST., WARSAW, IND., U.S.A.

USERS SAY UNION CUTS COSTS, SPEEDS PRODUCTION

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These Masonry Bits *Save you Money!* in drilling ANY MASONRY MATERIAL

New England CARBIDE-TIPPED

MASONRY BITS

Rotary Type *Cyclo-twist* and *Cyclo-Core* — Hammer Type *Thunder-twist* and *Thunder-Core*

Use the bit that will DRILL ANY KIND OF MASONRY—DRILL ANY SIZE OF HOLE from ⅛" to 6"—DRILL TO ANY DEPTH to 36"; that CAN BE USED WITH ANY TYPE OF DRILL, Electric Rotary or Power Hammer, AND WILL DO THE JOB EASIER, QUICKER AND MORE ECONOMICALLY FOR YOU.

Available at Leading Hardware and Supply Houses everywhere.

SEND FOR YOUR FREE "What and How" Manual of Masonry Drilling. Shows you the right bit for every job.

THE WORLD'S ONLY COMPLETE LINE

NEW ENGLAND CARBIDE TOOL CO., INC.
60V Brookline Street, Cambridge 39, Mass.

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Fielden TELSTOR

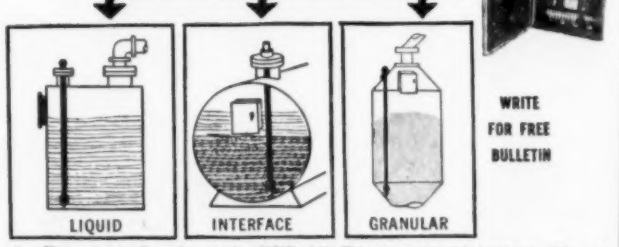
"masterminds" level continuously

DEPENDABLE LOW COST

Now you can indicate level continuously with a truly simple, electronic capacitance-measuring system that removes the restrictions, headaches, and high cost of other methods. Look what TELSTOR can do:

- Measures level of liquids, powders, solids
- Measures top to bottom or limited span, or interface
- Indicates remotely or right at vessel
- Unaffected by temperature, pressure or vacuum
- Requires no moving parts . . . only one radio tube

Robertshaw-Fulton CONTROLS COMPANY
FIELDEN INSTRUMENT DIVISION
2920 N. 4th St., Dept. F, Philadelphia 33, Pa.



WRITE FOR FREE BULLETIN

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DUSTKOP STOPS DUST

DUST COLLECTORS

SAVES INSTALLATION TIME

Stop dust quickly, at lower cost, with Dustkop. Thirty-seven standard models *ready to use* and available from stock. Dustkop conserves floor space, reduces maintenance. Collects almost all types of industrial dusts. Write for descriptive literature.

Also a complete line of Mist Collectors

AGET MANUFACTURING COMPANY
1396 East Church St. • Adrian, Michigan

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Versatile... High Efficiency

BENNETT BIG G TRANSFER PUMPS

Handle up to 20 gallons per minute of a wide range of liquids. High performance, because each stroke is pumping stroke. Bronze automotive type pistons, end valve and leather troubles. Write for details.

Bennett BIG G can be ordered for drum mounting or with tripod and suction hose

JOHN WOOD QUALITY PRODUCTS SINCE 1861

JOHN WOOD COMPANY
BENNETT PUMP DIVISION
Muskegon, Michigan

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WILLSON *Contour-Spec Safety Spectacles*

New Hinged Bridge Adds Extra Comfort

Its unique hinge permits equal pressure at every point of contact with the face—snug comfort regardless of facial contour! And the hinged bridge also means extra protection because Contour-Specs conform to *any* face without leaving dangerous gaps around the eyes! Order from your Willson distributor now.

★ 47 mm. lenses suit every eye size.
★ Adjust naturally to all bridge sizes 18 mm.-26 mm.
★ New concept of comfort combined with safety! Design Patent 168988

More Than 300 Safety Products Carry This Famous Trademark
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Leaders in Research and Development of Safety Equipment Since 1870
219 Washington Street • Reading, Pa.

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CONDENSER TUBE GUARDS
protect tubes from erosion

Stainless steel clips, made from 26-gage metal with slightly flared sides for tension, are attached directly over condenser tubes. They protect tubes from erosion and are available in 2-ft lengths for ¾, ⅞ and 1-in. diameter tubes. They do not appreciably affect the heat transfer rate, and can also be used to extend the life of eroded tubes. Made by **Allis-Chalmers Mfg. Co.**, 918 S. 70th St., Milwaukee 1, Wis.

▲ For more details circle **NED-167 D5** on enclosed inquiry slip ▲

PIPE BAR CLAMP
holds bulky objects for welding

Heavy duty Quickcet ¾-in. pipe bar clamp with sliding jaw for quick adjustments is designed to hold small or large objects normally too bulky to handle.

It can be used either vertically or horizontally, is made of alloy steel and is proof tested to 4500 lb. Clamp weighs 8 lb and has 15-in. opening capacity with its standard 12-in. pipe bar. Extra bar extensions of any length can be furnished. Made by **Grand Specialties Co.**, Dept. PC, 3101 W. Grand Ave., Chicago 22, Ill.

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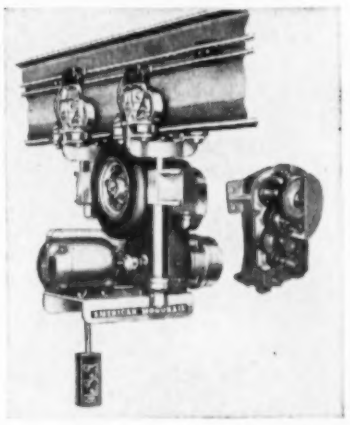
MONORAIL DRIVE UNIT
speed ranges from 35 to 350 fpm



Hoists or other carriers on Monorail track or crane bridge, with loads up to 5 tons, can be propelled at speeds from 35 to 350 fpm with this drive unit. Traction is obtained by spring-loaded contact of rubber wheel against bottom of any smooth flange track. Power range is from ¼ to 2 hp. Unit can employ any standard NEMA frame motor and is available with fluid drive for cushioned start. Any type motor brake can be applied. Made by **American MonoRail Co.**, 13116 Athens Ave., Cleveland 7, O.

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Tempilstik° FOR ALL HEAT-DEPENDENT OPERATIONS

looks like a crayon... marks like a crayon... tells temperatures like a precision instrument!

Sixty-three different compositions enable you to determine and control working temperatures from 113° to 2000° F. TEMPILSTIK° marks on workpiece "say when" by melting at stated temperatures—plus or minus 1%.

ALSO AVAILABLE IN LIQUID AND PELLET FORM . . . WRITE **ADVERTISING DIV.** FOR SAMPLE TEMPIL° PELLETS . . . STATE TEMPERATURES OF INTEREST—PLEASE!

Tempil° CORPORATION
132 WEST 22ND STREET, NEW YORK 11, N. Y.

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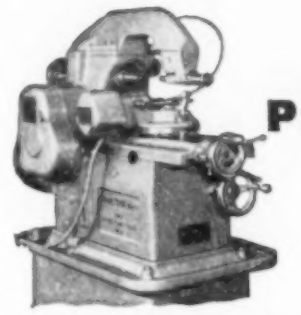
5416

CUT COST of PRECISION gear PRODUCTION



THIS FACT has been demonstrated time and time *again*

If you produce small, fine pitch, precision gears, up to 6" O.D. of the gear blank, use of the Hamilton Precision Gear Hobber will enable you to attain more gear precision with no sacrifice in gear production, or increased gear production with no sacrifice in gear precision . . . or both!

WANT FACTS?

Write for Hamilton Bulletin No. 5416.
Address The Hamilton Tool Company
901 Hanover Street,
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USE IT WITH CONFIDENCE

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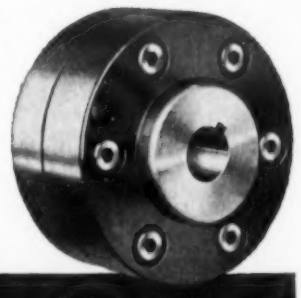
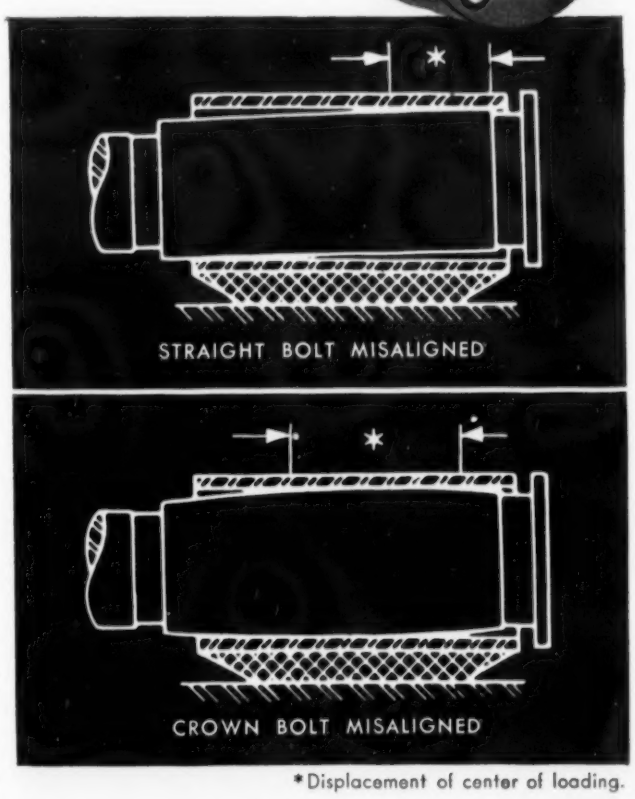
The crown distributes the load in

DE LAVAL *Crown Couplings*





*Displacement of center of loading.

The crowned bolt in De Laval crown couplings increases the life of the rubber bushing by distributing stresses over a greater area. That means 1. Bushing and bolt are subject to lower unit pressures, less deformation and less wear. 2. Greater misalignment is permissible. 3. Vibration is most effectively dampened. • *Bulletin 2203 contains complete selection data on De Laval crown couplings. Send for your copy.*

DE LAVAL *Crown Couplings*

DE LAVAL STEAM TURBINE COMPANY
DL284 *808 Nottingham Way, Trenton 2, New Jersey*

▲ For more details circle **NED-172 D5** on enclosed inquiry slip ▲

here's low cost protection against dust and fumes

Widely used under dusty conditions in sandblast operations . . . for protection against fumes, smoke, etc.

Universally liked by men and management: *Extremely light* (5½ pounds) with nothing to tie or bind around the neck. * * * *Comfortable fit.* The light, flexible hood is evenly distributed over operator's head and shoulders. Complete freedom of head movements. * * * *Seamless rubber hood* — light and impervious to dust, but also extremely durable. * * * *Wide range of vision.* The glass window is tightly sealed against a soft rubber gasket. * * * *Utmost protection.* Workmen, when equipped with Purair Helmets, cannot inhale even the finest or most concentrated injurious dusts.

Approved by U. S. Bureau of Mines. Ask for Bulletin 97 and prices.

THE W. W. SLY MANUFACTURING CO.
4748 Train Avenue • Cleveland, Ohio

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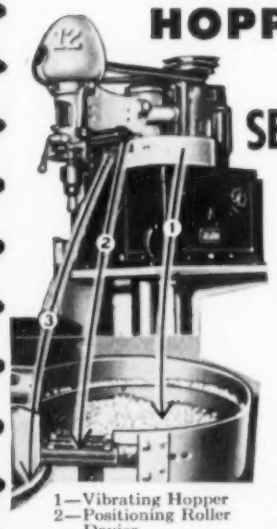
Now Setko Originates
HOPPER-FED
Headless
SET SCREWS



Socket or Slotted

10 times FASTER APPLICATION!

Automatically inspect diameter; reject misfits.

Take less floor space; permit smaller inventory; faster delivery.

Reduce cross-threading, floor-loss, etc. Any style point. We offer special mechanism for applying Setko Hopper-Fed Headless Set Screws; for demonstration at our plant or further details write

1—Vibrating Hopper
2—Positioning Roller Device
3—Tube leading to job

Also ask for New Set Screw Catalog.

Set Screw & Mfg. Co.
130 Main St., Bartlett, Ill. (Chicago Suburb)

We Specialize in Solving Puzzling Set Screw Problems

For more details circle **NED-174 D5** on enclosed inquiry slip

How to Make Dock Handling Costs *go down!*

YOU CAN DO IT WITH MAGLINER DOCK BOARDS — HERE'S WHY!

Magliner Dock Boards are custom-engineered to meet the specific requirements of your dock . . . equipment . . . and operating conditions! As a result, dock traffic moves faster, easier, safer! Because Magliners are designed to meet difficult and out-of-the-ordinary conditions, costly delays and bottlenecks are eliminated—and loading costs go down! Made of magnesium—world's lightest structural metal—Magliner Dock Boards are easily handled by one man, and combine maximum efficiency with safe, dependable service. Get the facts on Magliner Dock Boards now.

MagLiner MAGNESIUM DOCK BOARDS

WRITE TODAY for Bulletin DB-204!

MAGLINE INC. • P.O. BOX 54 • PINCONNING, MICHIGAN

For more details circle **NED-175 D5** on enclosed inquiry slip

MAGNETIC CORE-TRANSISTORS
transient and permanent types have long life and wide range

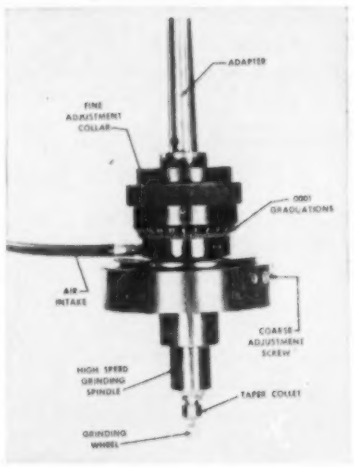
Advantages of transistors and magnetic cores are combined in Magnistors, basic circuit elements applicable to high speed computers, business data handling systems, automation control systems, high speed counters and magnetic tape systems. They are sold as components as well as in complete packaged systems.

Two types are made: transient type acts as an amplifier in which extremely small electrical signals can control other circuits having several thousand times the power; permanent two-state or bistable storage type device can be turned on and off by small electrical impulses.

Latter unit will "remember" information indefinitely, even when power is disconnected. Magnistors will last indefinitely and are not affected by temperature extremes. Operation is over frequency range from direct current to 30 million cycles per second. Made by **Potter Instrument Co.**, 135 Cutter Mill Rd., Great Neck, N. Y.

For more details circle **NED-176 D5** on enclosed inquiry slip

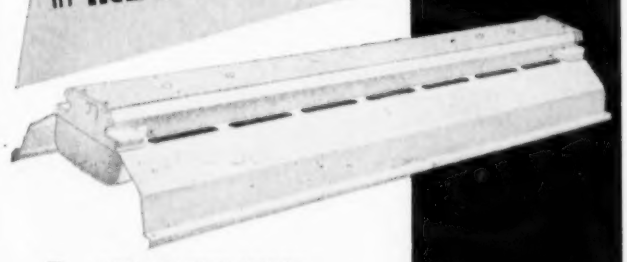
PRECISION GRINDING HEAD
air-driven tool has planetary action



Usable as a tool in a jig borer, boring mill, lathe, drill press or similar machine tool, this Grind-A-Matic air-driven precision grinding head has a planetary action. It performs close-tolerance toolroom work on dies and fixtures as well as on production jobs. Fine adjustments of 0.0001-in. through a range of 0.084-in. are made by rotating a graduated collar which is spring-loaded to eliminate backlash. After setting, the collar position is locked. Coarse adjustment from 0.084 to 1½ in. is made with the spindle stationary. With standard equipment, holes from ⅛ to 2½-in. diameter can be ground. Auxiliary mounting arm extends range to 4 in. Two interchangeable spindles develop speeds of 12,000 and 75,000 rpm, which speeds are infinitely variable within these ranges. Made by **Perfex Gage & Tool Co.**, Dept. 5, 123 Avery St., Mt. Clemens, Mich.

For more details circle **NED-177 D5** on enclosed inquiry slip

Wheeler **'D' LINE**
the "NEW LOOK" in **INDUSTRIAL LIGHTING**



1 MORE UPLIGHT to reduce contrast for seeing comfort. Exceeds new RLM Standards.

2 MORE EFFICIENCY to start with and higher maintained efficiency due to self cleaning features.

3 MORE PROTECTION for lamp holders to minimize dirt and moisture problems.

Wheeler **REFLECTOR COMPANY**
275 CONGRESS ST.
BOSTON 10, MASS.

Distributed Exclusively through Electrical Wholesalers

For more details circle **NED-178 D5** on enclosed inquiry slip

Save! WITH **STACKPOLE WELDING PASTE**

TORCH DRIES WITHOUT BLISTERING OR SPALLING

Here is the ideal back-up or dam material for welding complicated shapes. Holds plates and rods in place while welding—saves time in positioning odd-shaped pieces—protects threaded holes or other parts near the welded spot.

Stackpole Welding Paste sets quickly and surely with either an arc or gas flame. Does not blister, spall or crack and has a low rate of oxidation. Comes in 1, 2½ and 5 pound cans.

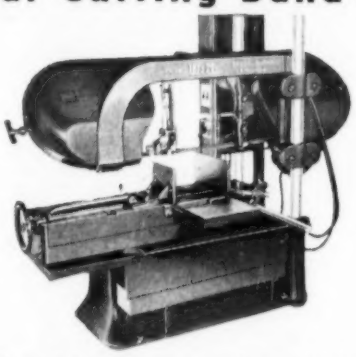
STACKPOLE CARBON CO., *St. Marys, Pa.*

STACKPOLE

WELDING ELECTRODES • WELDING PLATES AND RODS
BRAZING CARBONS • RESISTANCE WELDING TIPS
BRAZING BOATS AND TRAYS. . . Write for Catalog 1B

For more details circle **NED-179 D5** on enclosed inquiry slip

New Ease of Control With the Wells Model 1200 Metal Cutting Band Saw



The Wells model 1200 is a rugged, new horizontal band saw for heavy-duty production cutting. It incorporates all the advantages of the Wells No. 12 plus such outstanding advancements as Finger-Tip Control and greater safety with *110 Volts at the controls.* And with the flip of a switch, the model 1200 becomes a completely automatic machine with continuous operation for duplicate cutting when used with the Wells-O-Bar Feed Master stock projection unit.

Call your Wells Distributor or write for Job-Engineering Service.

Wells

The Pioneers of Horizontal
METAL CUTTING BAND SAWS
WELLS MANUFACTURING CORP.
1313 HARDING ST. • THREE RIVERS, MICH.

For more details circle **NED-180 D5** on enclosed inquiry slip

SPLIT-SECOND ELECTRONIC TIMING
with no-filament tube!

Split seconds the EASY way — use a CK Electronic Timer

Easy Starting . . .
No warm-up, through use of cold-cathode tube. Immediate re-cycling possible. Momentary-contact operation if desired.

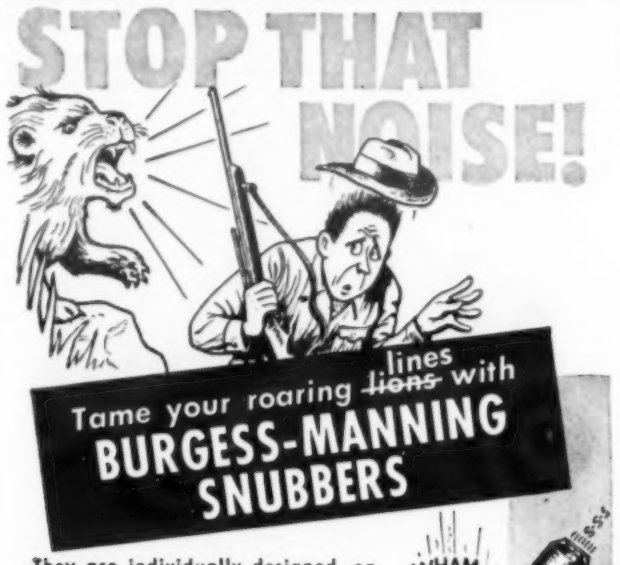
Easy Setting . . .
Short intervals can be spread over the entire dial. Standard ranges: 1.5, 3, 6, and 12 seconds.

Easy on space . . .
Only 3⅞" wide by 3" deep by 4⅞" high.

Easy on cost . . .
$29.00, or $32.00 with momentary-contact feature.
— For full details, write, wire, or phone —

Farmer ELECTRIC COMPANY
WABAN, MASSACHUSETTS

For more details circle **NED-181 D5** on enclosed inquiry slip



They are individually designed, on thoroughly proved principles, to effectively correct any intake or exhaust noise caused by the flow of air, steam, or other gases. Stop that noise — profit through better neighbor and employee relations — eliminate costly oral errors — avoid compensation claims.

Tell us your noise problem and let us recommend—no obligation.

BURGESS-MANNING COMPANY
Sound Engineering
755 East Park Avenue, Libertyville, Illinois
Dallas Chicago

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UNIT 357
MOBILE CRANE

• Self-Propelled
• Rides on Rubber
• Has 1001 Uses

Speed Up Material Handling

Here's a handy, mobile crane for lifting or loading jobs around your plant. Ideal for dismantling, moving or erecting machinery . . . loading and unloading structural iron, pipe, bars, lumber and equipment of all types. The UNIT 357 is self-propelled . . . rides on rubber at road travel speed . . . is easy to maneuver even in cramped yard conditions. Operated by ONE man . . . powered by ONE engine . . . swings in a 360° circle. Full vision cab gives complete visibility. Promotes Safety. Write for Catalog.

UNIT CRANE & SHOVEL CORP.
6607 W. Burnham Street, Milwaukee 14, Wis., U. S. A.

UNIT
CRANES • • CLAMSHELLS • MAGNETS

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Here's the answer to economical local handling service to process machines, particularly beneath heavy mill type cranes . . . it's the American MonoRail Pedestal Jib. These jibs are recommended for capacities between 500 to 4,000 pounds, headroom 9 and 12 feet, and boom length 8 and 12 feet . . . a truly precision built, skillfully engineered job.

Turn to American MonoRail for any overhead handling requirements. Your American MonoRail engineers will be glad to consult with you.

For any MonoRail application write for Bulletin C-1

AMERICAN MONORAIL COMPANY
OVERHEAD HANDLING EQUIPMENT
13116 ATHENS AVENUE • CLEVELAND 7, OHIO
[IN CANADA—CANADIAN MONORAIL CO., LTD., GALT, ONT.]

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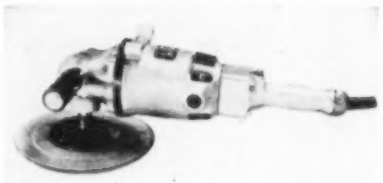
SPHERICAL ROD END BEARINGS
sizes for 3/16 to ¾-in. bores

Mass - produced self-aligning spherical rod end bearings are now available in lower price range. The Scref rod end female and the Screm rod end male bearings serve to minimize lost motion in linkages and will withstand extreme vibration. They carry heavy loads because of their great surface supporting area. Bearings are made of one-piece ball and one-piece race, and in bore sizes from 3/16 to ¾-in. with capacities of radial ultimate loads from 1670 to 15,600 lb and higher. Made by **Southwest Products Sales Corp.**, Dept. NED-55, 1707 S. Mountain Ave., Duarte, Calif.

▲ For more details circle NED-185 D5 on enclosed inquiry slip ▲

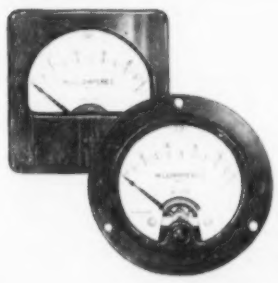
SANDER-GRINDER
available in three speeds



Increased power and weight reduction of 4 lb are improvements made in 9-in. heavy duty sander - grinder. It is available in speeds of 4200, 5200 or 6000 rpm, with 115 or 220 v motor. Operating switch is in a dustproof compartment. Side handle can be either right or left side mounted. Accessories included as standard equipment are reversible side handle, spanner wrench, molded rubber pad, Koolflex pad, clamp washer and three sanding disks of varying grits. Depressed center wheels can be used with the tool. Made by **Black & Decker Mfg. Co.**, 762 E. Pennsylvania Ave., Towson 4, Md.

▲ For more details circle NED-186 D5 on enclosed inquiry slip ▲

PANEL INSTRUMENTS
self-shielded for accuracy



Available for direct current as well as rectified alternating current, 1301 line of core-magnet self-shielded panel instruments includes round and rectangular shapes. They can be mounted on magnetic or nonmagnetic panels interchangeably without need for special adjustment. They are shielded from external magnetic fields and can be mounted close together. Made by **Weston Electrical Instrument Corp.**, 617 Frelinghuysen Ave., Newark 5, N. J.

▲ For more details circle NED-187 D5 on enclosed inquiry slip ▲

WHEN YOU WANT WASHERS
SAVE BY BUYING FROM
WHITEHEAD

Thousands of washer dies on hand can save you money! O. D. sizes from ⅛" to 18"; any I. D. you want; any thickness from .002" to ⅜". Any metal—steel, brass, copper, bronze, aluminum.

SPECIAL SHAPES MADE TO ORDER

Whitehead's Catalog lists hundreds of washer sizes; also—cable clips; pipe, conduit and wire clips; burrs, plugs, spacer shims, retainers, gaskets—either in stock or made to your specifications. Write for a copy.

54-1

WHITEHEAD STAMPING CO.
EST. 1903
1669 W. Lafayette Blvd., Detroit 16, Michigan

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TAKE THE
PATTERSON
TYPHOON
TO THE JOB!
and get a better job of mixing

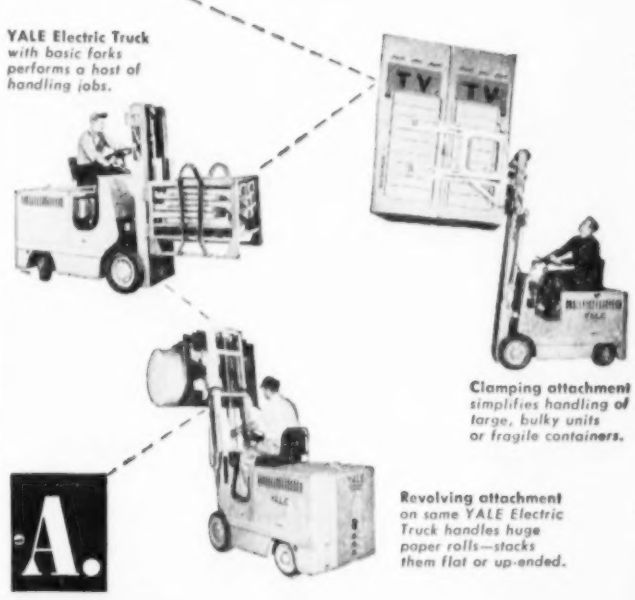
• LIGHT
• STURDY
• ADJUSTABLE
• CONTINUOUS SERVICE
• LONG LIFE
• DIRECT OR GEAR DRIVES

Mounts on receptacles of almost any size or shape—handles liquids up to 4,000 centipoises. Wide-spaced ball bearings, constant duty motor, fully adjustable to any angle with simple locking device. Prompt shipment. Bulletin on request

The Patterson Foundry and Machine Company
East Liverpool, Ohio, U. S. A.
NEW YORK, BOSTON, BALTIMORE, PHILADELPHIA, PITTSBURGH, DETROIT, CINCINNATI, ATLANTA, CHICAGO, ST. LOUIS, HOUSTON, DENVER, LOS ANGELES, SAN FRANCISCO, SEATTLE
The Patterson Foundry and Machine Company, (Canada) Limited
Toronto, Canada
MONTREAL

▲ For more details circle NED-189 D5 on enclosed inquiry slip ▲

Q. HOW MANY TRUCKS HERE?



ONE! A SINGLE YALE TRUCK DOES THESE 3 JOBS AND MORE

Take a YALE Truck, Electric, Gas, Diesel or LP-Gas... add interchangeable YALE attachments...and you can handle a variety of lifting, stacking and moving jobs every day! What's more, you'll handle them faster, safer and at less cost. Job-specified YALE attachments—installed in minutes, removed as easily—perform dozens of specialized handling jobs...are designed for use with every Truck in the complete YALE line. For full information, send coupon today!

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INDUSTRIAL LIFT TRUCKS AND HOISTS

MAIL THIS COUPON TODAY
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Roosevelt Boulevard, Philadelphia 15, Penna.
Please send me further information on YALE Trucks:
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Gas, Electric, Diesel & LP-Gas Industrial Trucks • Worksavers
Warehousers • Hand Trucks • Hand & Electric Hoists

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BUY "GUARANTEED RELAYERS"

Handle more cars better — spend less to install and maintain with Relayers from Foster. "Open-stock" shipments from Foster warehouses, all sections 12# thru 175#—plus Switch Materials and Track items.

Send catalogs ☐ Rails ☐ Track Equipment
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RAILS · TRACK EQUIPMENT · PIPE · PIPE FABRICATION · PILING

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PITTSBURGH 30 • NEW YORK 7 • CHICAGO 4 • HOUSTON 2 • LOS ANGELES 5

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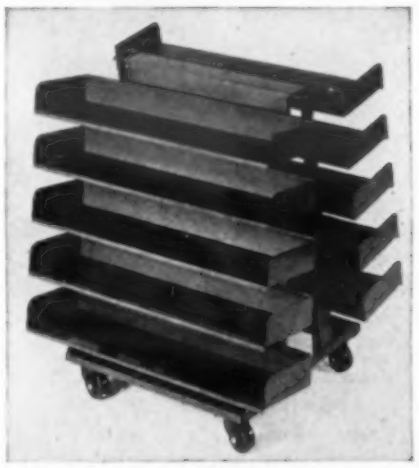
HANDLING EQUIPMENT
system built around hook-on trays



Heart of the Multi - Purpose system of handling is the Hook-On Tray. This welded steel tray is 32 in. long and hooks securely on supports of a vertical traveling rack mounted on four casters. The TR Sr. rack is 5 ft 4 in. high, has 3-in. casters and carries up to 20 load-lifting trays. Bantam TR Jr. model is 36 in. high and accommodates ten trays. Also available is 5-ft high floor rack for use in storage locations and at machines or workbenches. Stock tray sizes, in height and width, are 3 x 9, 6 x 9, 3 x 12 and 6 x 12 in. They can be supplied with partitions to suit application. Also available are single and double tables with whirling racks that accept the hook-on trays for assembly, inspection and sorting operations. Developed by **Markol Metal Products, Inc.,** Dept. F, 234 Mill St., Rochester 14, N. Y.

▲ For more details circle NED-193 D5 on enclosed inquiry slip ▲

TRIPL-PALM design eliminates the "failure points" of ordinary work gloves, resulting in multiplied glove life . . . greatly reduced glove costs.

Knit-wrist or gauntlet style with coated or "free-breathing" backs. Ask your jobber or write for information.

Wing thumb (one-piece palm and thumb) construction for multiplied service life.

EXTRA-HEAVY COATING FOR EXTRA LONG WEAR . . . and greater palm comfort.

THE SURETY RUBBER CO.
Carrollton, Ohio
In Canada: Safety Supply Co., Toronto

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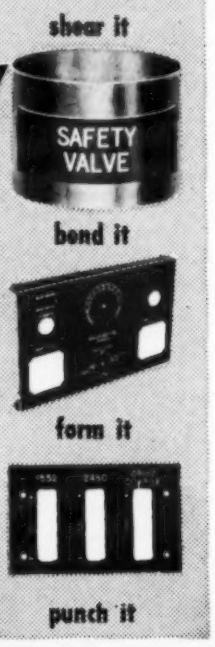
THE NEW WAY TO

MARK EQUIPMENT...

with GRAVOflex

the first chip-proof, flexible engraving stock



So simple to engrave Gravoflex. Lettering will stand out permanently on contrasting background. No paint needed.

10,000 Engravographs in use for engraving on metals and plastics. Only the Engravograph has these patented features:

• Adjustable for 15 ratios. • Self-centering holding vise.
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Engravograph Booklet IM-26 · Gravoflex Booklet G-26

NEW HERMES ENGRAVING MACHINE CORP.
13-19 UNIVERSITY PLACE NEW YORK 3, N. Y.

INFRARED GAS HEATER
can be used indoors or outdoors

Manufactured, natural or liquefied petroleum gas can be used by the Infra Rayhead heater, available in various sizes up to 12,000 Btu. Use may be indoors or outdoors for protecting concrete and masonry work from freezing; for drying paint, plaster, brick, lumber, paper and ceramics; or heating any type of structure. It heats up instantly, directing infrared heat over an area of 80 to 100 sq ft. As it heats only objects which cross its ray, the heater does not raise air temperatures. Heat may be directed upward, downward or sideways. Self-contained portable unit holds a standard 100 lb or smaller LP gas cylinder, sufficient for 150-hr operation. Permanent attachment to wall, post or ceiling is possible, with gas piped to the unit. Made by **Perfection Stove Co.,** 7890-A Platt Ave., Cleveland 4, O.

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lower costs... improve design... save time... with

GRC die cast GEARS & PINIONS

COMBINATIONS die cast in ONE piece!

Cast in one piece, at one time—and one low unit cost! Made precisely to specifications, permitting wide flexibility of design. One-piece assemblies cast with shafts, center holes, and combinations with cams, hubs, spacers and flanges. Maximum size: 1-5/16" outside diameter x 1/16" face width; wider faces for smaller diameters.

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Keep your cranes in service

Lower your upkeep costs

This booklet tells you how

This important booklet describes our three Special Crane Rail Sections, which were designed to give longer life under heavy wheel loads. And it shows a special technique of tight-joint assembly which, when combined with a "floating rail" fastening, will result in fewer delays in crane operation and less costly crane and runway maintenance.

Don't delay. Send for your free copy today. Just write to United States Steel Corporation, Room 4646, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

USS SPECIAL CRANE RAIL SECTIONS

UNITED STATES STEEL

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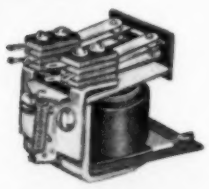
GUARDIAN® Relays

for every industrial and military use...

Series 345 D.C.
Versatile
Industrial, Aircraft



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Economical
Small Sized

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A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

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TOP QUALITY AT LOW PRICES!

Special processes developed by Sillcocks-Miller now permit fabrication of thin wall pieces such as insulators, washers, etc., with low tool cost and without sacrifice of quality or service life . . . Send specifications for details, recommendations and quotations on all your small part requirements.

45 Years Experience in Solving Problems with Plastics!

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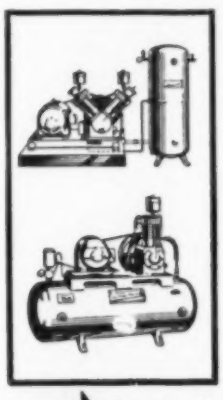
Kellogg-American



AIR COMPRESSOR PUMPS, ⅓ TO 20 HP
Engineered and precision built to give more *free air* (actual air delivered) per hp, Kellogg-American compressors assure maximum air delivery, efficiency and service life. Single or two stage, 1, 2 or 4-cylinder units available for pressures up to 200 psi; displacements to 105.9 c. f. m.

COMPLETE AIR COMPRESSORS, ⅓ TO 20 HP
Portable or stationary; skid, remote tank or tank mounted; electric motor or gas-engine-driven models permit you to select the most efficient, economical compressor for every job. Write Dept. ND-1 for Bulletin K-307.

FREE New slip-stick selector to help determine the right Kellogg-American air compressors for your needs. Send for yours on company letterhead today.

KELLOGG DIVISION
ROCHESTER 9, N. Y.

AMERICAN Brake Shoe COMPANY

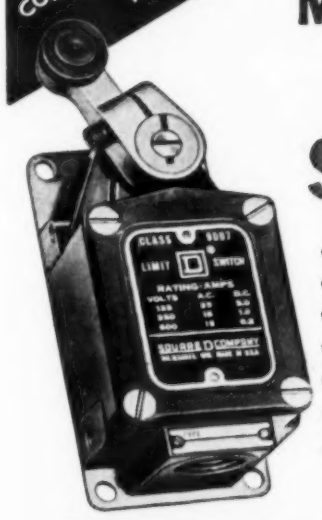
Kellogg-American

⅓-20 H P AIR COMPRESSORS · PAINT SPRAY EQUIPMENT

For more details circle **NED-199 D5** on enclosed inquiry slip

YOU GET eleven CONTACT ARRANGEMENTS IN one

with this **NEW Machine Tool LIMIT SWITCH!**



- oil tight
- easy stocking
- easy mounting
- rugged mechanism
- 80 degrees overtravel
- 11 contact arrangements
- simple adjustment

Write for Bulletin SM-239. Address Square D Company, 4041 N. Richards St., Milwaukee 12, Wisconsin.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

For more details circle **NED-200 D5** on enclosed inquiry slip

SHOCK ABSORBERS FOR ELECTRICAL ASSEMBLIES

Protect your lighting fixtures and other suspended electrical equipment from vibration damage with THOMPSON shock absorbers. Featuring angular as well as vertical movement for maximum shock absorption, these durable units are designed for use in a wide range of applications.

THOMPSON shock absorbers are available in light and heavy-duty models having load capacities up to 80 pounds maximum. Fabricated from light-weight aluminum alloys, these versatile units assure long trouble-free service life for lighting fixtures, meters, fans, instrument panels, motors, process controls, unit heaters and similar items.

Write today for Bulletin SA-55 for complete details.

6099-TE

THE THOMPSON ELECTRIC CO.
1138 Power Avenue • Cleveland 14, Ohio

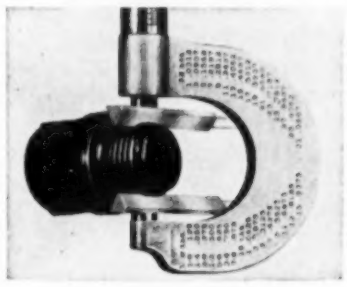
For more details circle **NED-201 D5** on enclosed inquiry slip

SOLENOID VALVE features quiet operation

Spring, armature and guide tolerances and material specifications of the type 255 Electro-pneumatic valve are such that alternating current hum is prevented. Quiet-operating unit passes full air at supply pressures up to 25 psi when energized. When de-energized, supply port is stopped and return line pressure is wasted to atmosphere. Built-in manual adjustment permits valve opening when coil is de-energized. Port connections are ⅛-in. NPT and 60-cycle coils can be supplied for 115, 208, 230 or 440 v. Valve is UL-approved. Made by **Powers Regulator Co.**, Dept. NDC, 3400 Oakton St., Skokie, Ill.

For more details circle **NED-202 D5** on enclosed inquiry slip

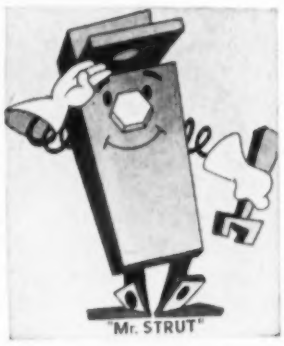
THREAD TRIANGLE GAGES provide accurate micrometer feel



Usable on standard and nonstandard 60-degree threads, Thread Triangle Gages are set over and under the threaded part, and a micrometer reading is taken over the triangles. Because of line contact, more accurate feel is possible on the micrometer. They are fast and easy to use. Reading requires only adding of two numbers. Offered by **Montgomery Tool Sales**, Box 1241, Church St. Post Office, New York 7, N. Y.

For more details circle **NED-203 D5** on enclosed inquiry slip

METAL FRAMING MOVIE offered on free loan basis



"The Sky's the Limit" is the title of 16-mm sound-color motion picture which utilizes cartoon animation to show the application of metal framing in electrical, mechanical, storage and materials handling fields. Just how this system of metal channels, fasteners and fittings can be used to construct racks, frames, shelving units, and hundreds of other products is shown. Film will be loaned free to responsible industrial groups for showing. For full information contact **Unistrut Products Co.**, Dept. MF, 1013 W. Washington Blvd., Chicago 7, Ill.

For more details circle **NED-204 D5** on enclosed inquiry slip

New **SUPER-WIZARD ELECTRIC COUNTERS**

featuring —

- 200 Million Count Life
- 1000 Counts per Minute
- Only 5 Watts current draw

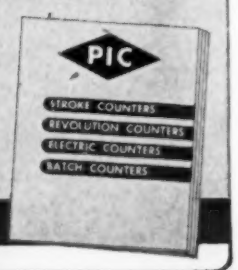
Basemount

Available with 4 or 6 digits, knob or key reset, in Basemount, Panelmount and Dustproof models for all AC and DC voltages to 220.

Dustproof

Panelmount

Send for Catalog or tell us what you want to count.



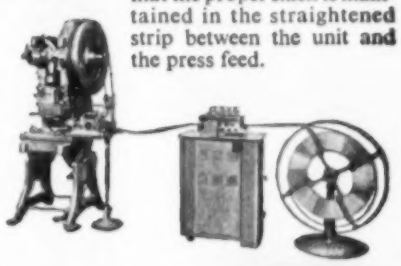
PIC
PRODUCTION INSTRUMENT COMPANY
700-12 W. Jackson Blvd., Chicago 6, Ill.

For more details circle **NED-205 D5** on enclosed inquiry slip

Economy • Dependability

WITTEK STOCK STRAIGHTENERS

Used in conjunction with a reel stand and automatic feed for punch presses, the Wittek Stock Straightener is a self-contained, motor-driven unit designed for maximum efficiency in the continuous straightening of coiled stock. Standard models handle stock with widths up to 12 inches. An infinitely variable speed drive permits any desired straightening speed so that the proper slack is maintained in the straightened strip between the unit and the press feed.



This typical Wittek automatic production feeding setup includes —Wittek roll feed mounted on the punch press, Wittek stock straightener, and Wittek self-centering reel stand.

Write for full particulars

WITTEK Manufacturing Co.
4325 W. 24th Place • Chicago 23, Illinois

Production Feeding Equipment

For more details circle **NED-206 D5** on enclosed inquiry slip

NEW! Sexauer' Monel Self-Locking bibb screw – 10 sizes do the work of 37!

NEW! 'Sexauer' Easy-Tite faucet washer with Fiberglas reinforcing

This nylon plug locks the screw *automatically!*

NEW! Amazing, patented screw and washer combination cuts faucet washer replacements 75%

— with each leak eliminated, you reduce water and fuel bills up to $28.80 quarterly

Most faucet washer failures are caused by wrong length screws. 'Sexauer' Self-Locking screws* and Easy-Tite washers* – used together – cut costly washer replacements 75%! You save up to $28.80 quarterly in water and fuel alone with each leak stopped. Here's how . . .

A screw *too short* for the tapping distorts and splits the washer when tightened; the washer works loose, is torn to shreds. If *too long*, it can't grip the washer; this ruins the washer and causes hammering in the water line.

Simplifies fitting problem—cuts installation costs

'Sexauer' Self-Locking screws eliminate the problem of misfit screws. They lock *automatically* at the required depth as the nylon plug is compressed in the faucet thread. The washer is not distorted, is held firmly.

You can re-use Self-Locking bibb screws repeatedly. Made of Monel, they resist corrosion, never rust; heads won't twist off, screw driver will not distort the slot.

Self-Locking screws save time spent in fitting the proper length – 10 sizes do the work of 37! Used with new, Fiberglas-reinforced 'Sexauer' Easy-Tites, they cut washer replacements 75%, fixtures last longer. Easy-Tites resist closing squeeze and excessively hot water, outlast ordinary washers 6 to 1!

Water and fuel savings

One dripping faucet wastes 8,000 gals. of water yearly. A pinhole size stream increases waste to 8,000 gals. in a *single month!* Here is what you save *quarterly* in stopping just *one* pinhole leak on a hot water faucet:

Fuel Saving		Water Saving	Total Saving
Oil (198 gals.)	$22.77	$6.03	$28.80
Coal (2,469 lbs.)	22.22	6.03	28.25
Gas (21,103 cu. ft.)	21.20	6.03	27.23

Save water, fuel and labor costs; conserve costly fixtures by cutting washer replacements 75%! Use *new* 'Sexauer' Self-Locking screws and Easy-Tite faucet washers. *You save every time you do!*

WRITE FOR CATALOG. New 'Sexauer' Self-Locking screws and Easy-Tite washers are just part of the line of over 3,000 'Sexauer' Triple-Wear plumbing repair parts and patented precision tools. Send for our new, 126-page Catalog H. *Write today!*

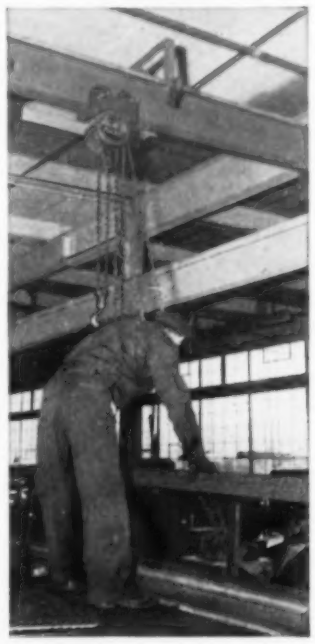
*Reg. U. S. Pat. Off

J. A. SEXAUER MANUFACTURING CO., INC. Dept. AU-45
2503-05 Third Avenue, New York 51, N. Y.

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

For more details circle **NED-207 D5** on enclosed inquiry slip

Peerless Packet Trolley Hoist speeds unloading of steel stock



When a supplier's truck pulls into the unloading bay of this industrial plant, a Peerless Packet Trolley Hoist takes over. A worker picks up the load with this easy-to-operate trolley hoist, conveys it over an I-beam to the racks, and stores it in its proper place in a matter of minutes. The supplier is in and out quickly, the worker is available for other jobs, and there's no cluttering of floors and aisles. Investigate Peerless Packet Trolley Hoists. They make lifting easy, cut handling time materially, require little maintenance. Ask your authorized industrial distributor for Bulletin P-5. Or write us.

THE HARRINGTON COMPANY

Makers of Hoists Since 1876

GRAVERS ROAD AT THE TURNPIKE, PLYMOUTH MEETING 16, PA.

▲ For more details circle **NED-210 D5** on enclosed inquiry slip ▲

Industrial caster has 9 lives

Sideplate wheels have added eight new lives to the already long-lived Bassick Series "68" and "99".

File hard (15N90 Rockwell) bearing surfaces . . . Double-ball bearings permanently adjusted . . . Bearings can't be pre-loaded or misaligned . . . Unit bearings can't fall apart in disassembly . . . Tires, discs and unit bearings are replaceable . . . Zinc or cadmium finish resists corrosion . . . High tensile rubber treads won't stretch . . . Alemite lubrication fittings are standard.

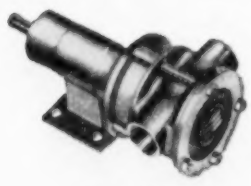
Write for Catalog 4R-54 to The Bassick Company, Bridgeport 2, Conn. In Canada: Belleville, Ont.

Bassick A DIVISION OF STEWART SW WARNER

MAKING MORE KINDS OF CASTERS . . . MAKING CASTERS DO MORE

▲ For more details circle **NED-211 D5** on enclosed inquiry slip ▲

cut pumping costs with JABSCO INDUSTRIAL PUMPS



Model 485
316 S.S. Construction—
Sealed Ball Bearings
—Mech. Shaft
Seal

- INSTANTLY SELF-PRIMING
- SIMPLE, COMPACT, ONLY ONE MOVING PART
- DURABLE NEOPRENE IMPELLER
- SELF-LUBRICATED
- TROUBLE-FREE OPERATION

HERE'S another Jabsco industrial pump—designed and built for chemical, pharmaceutical and other industrial applications. Ideal for transfer of various liquids and acids—sump drainage, coolant pumping, general transfer, pulp in solution, filtering, brines, plating solutions—even fluids containing foreign matter or particles, silt, crystals, and other gritty materials. Bronze, stainless steel or plastic construction is available to *solve your specific* pumping problems.
Pumps either light or heavy viscous liquids. Temperature ranges from 35° to 180° F. Write for a Jabsco factory recommendation for your own needs. Specify application, fluid pumped, temperature, pressure, etc.

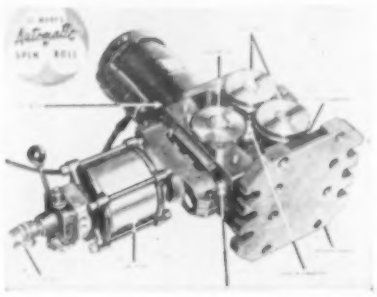
FREE—send for catalog sheets, detailed information... no obligation, of course!

PATENTED AND PATENTS PENDING

JABSCO PUMP COMPANY
2031 Lincoln Street, Burbank, California

▲ For more details circle **NED-212 D5** on enclosed inquiry slip ▲

CENTERING TOOL
self-centering and self-adjusting for rotary machining and grinding



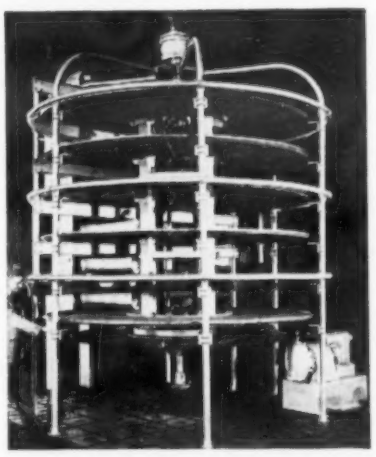
Absolute concentricity for all metal components from zero up to 1.250-in. finished diameter is achieved without use of collets or chucks by the St. Mary's Spin Roll universal centering tool. Fully automatic unit is self-centering and self-adjusting to uniform diameters, lengths, speeds and feeds as the surface speed is constant.

Concentricity is achieved through a series of synchronized interlocking rollers, driven by a motor. Work pieces rotate on their own diameters between the Spin Rolls while secondary diameters are generated. Used as either a machine accessory or as a self-contained bench unit, tool is adaptable for all rotary machining and grinding operations.

Use can be on a surface grinder, internal grinder, lathe, drill press or milling machine. It is pneumatically or manually controlled and measures 8¾ x 9⅝ x 17 in. Mounting dimensions for vertical work are 8½ x 4⅞ in. Made by **Pivot Punch & Die Corp.**, 381 Old Niagara Falls Blvd., North Tonawanda, N. Y.

▲ For more details circle **NED-213 D5** on enclosed inquiry slip ▲

CIRCULAR SHELF COOLER
solidifies molten materials



Consisting of several circular trays mounted on a vertical drive shaft, the Roto-Shelf cooler minimizes space required for continuously cooling and solidifying sulphur, pitch and materials with similar properties. Trays are available in 10 and 13-ft diameters, with more or less than six on the drive shaft. Molten liquid material is distributed on each rotating shelf where it solidifies with the aid of cooling water which is distributed through the shelf by baffles that assure uniform cooling. Solidified material is removed by means of a stationary ramp which lifts the material into breakers from which it is discharged into screw conveyors. Made by **Blaw-Knox Co.**, Buflovak Equipment Div., 2068 Farmers Bank Bldg., Pittsburgh 22, Pa.

▲ For more details circle **NED-214 D5** on enclosed inquiry slip ▲

A USG GAUGE for every purpose

Rugged, dependable gauges with enduring accuracy . . . in every price class.

- IMMEDIATE AVAILABILITY—USG maintains the world's largest stock of standard gauges—over 200,000 in all types, sizes and ranges.
- EVERY SPECIAL REQUIREMENT—USG maintains the most complete line of stocked gauge components to economically handle on a large volume basis, all special requirements for any pressure sensing and actuating need.
- USG is the largest gauge manufacturer in the world. Its facilities are economically integrated for large volume, quality controlled production, permitting better gauges at competitive prices.

Consult USG first for all your standard and special gauge requirements.

UNITED STATES GAUGE *Gauge Headquarters* for over 50 years

United States Gauge, Division of American Machine and Metals, Inc., Sellersville, Pa.

▲ For more details circle **NED-215 D5** on enclosed inquiry slip ▲

A Better Marking Job...

in less time... with Industrial's "Whippet"

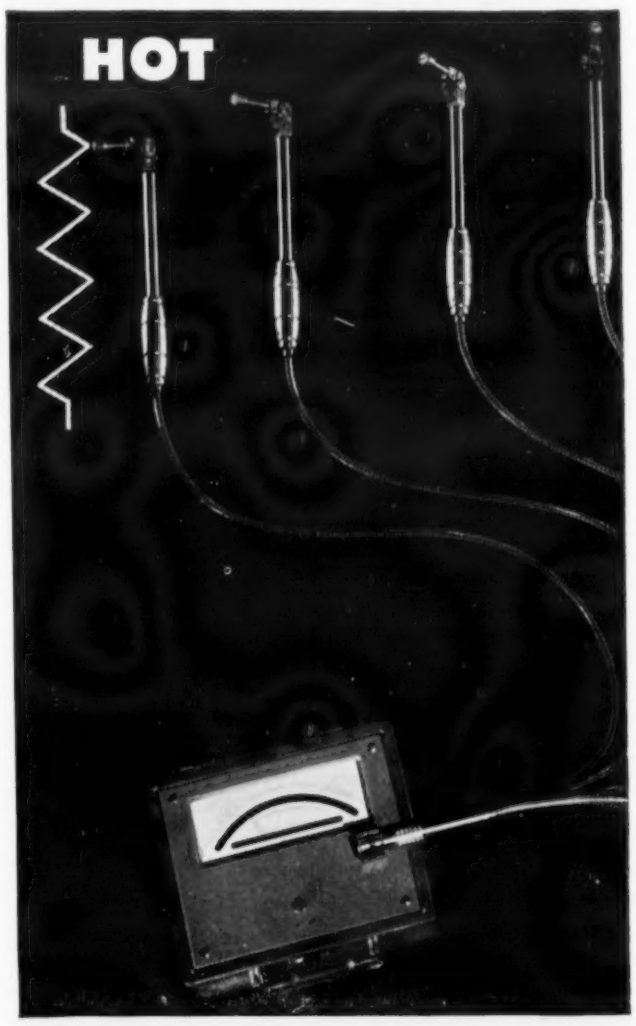
You mark containers as you need them with the Whippet marker. It automatically dates, codes or marks containers, cartons, bags or packages during production runs. Eliminates expensive hand stencilling by its non-stop operation ... easily applied to the conveyor line... self inking... simple to maintain. Let Industrial engineers prove that high production and precision marking can be yours for less than you might imagine. We welcome the opportunity to solve your marking problems. Write today for new 24 page catalog.

Dept. N.E.D.

Industrial Marking Equipment COMPANY, INC.
454 Baltic Street, Brooklyn 17, New York • MAin 4-2601

▲ For more details circle **NED-216 D5** on enclosed inquiry slip ▲

READ TEMPERATURES



ALNOR PORTABLE

INSTANT READING...
with accuracy of any surface temperature. Large 6" mirrored scale face and knife-edge pointer reads directly in degrees Fahrenheit or Centigrade—no slide wires or conversion tables.

DEPENDABLE ACCURACY...
consistently to within 1% under all variable conditions. Alnor Portable Pyrometers are laboratory instruments designed to maintain precise performance under the hazards of industrial portable use.

Send Now ➡

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

Room 529, 420 N. LaSalle Street, Chicago 10, Ill.

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How To
Mark Name Plates In
1/5 the Time

Cutting costs in these times is a good trick if you can do it. You can, on plates requiring detail marking, by using an Automark Electric Metal-Marking Typewriter. The operator lightly touches the key and the Automark does the rest, quickly and automatically. No dial to turn—no lever to pull. Marking output is increased five times and worker fatigue is greatly reduced. Write today for Bulletin 8-16.

AUTOMARK
Electric Metal-Marking
TYPEWRITER
Manufactured Exclusively By

AGENTS
Desirable territories open for responsible representatives. Write giving complete information, lines carried and territory covered.

DEFIANCE MACHINE & TOOL COMPANY
1928 South Vandeventer Ave. • St. Louis 10, Mo.

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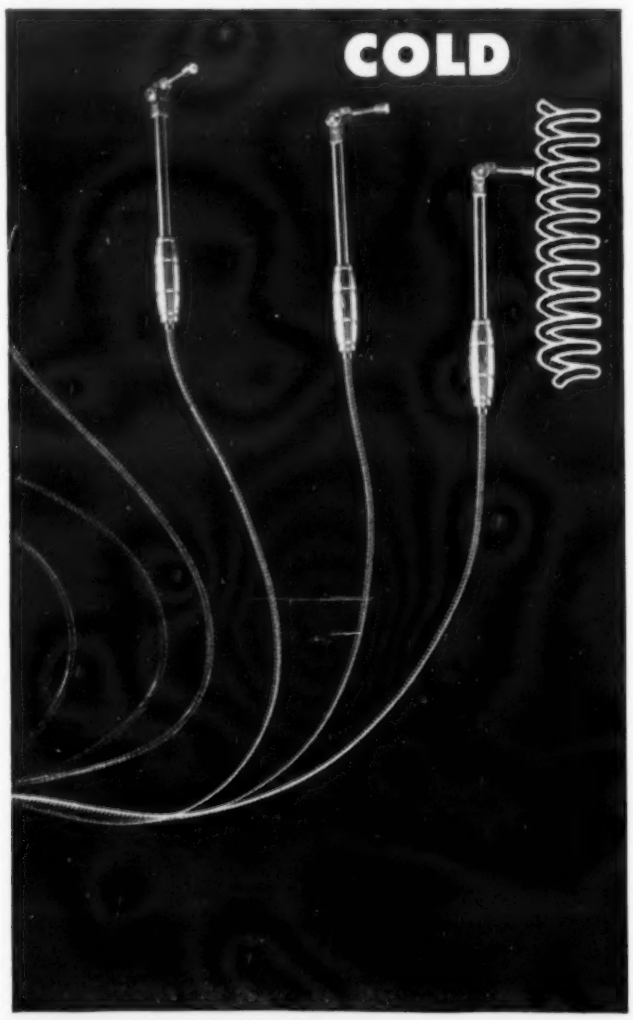
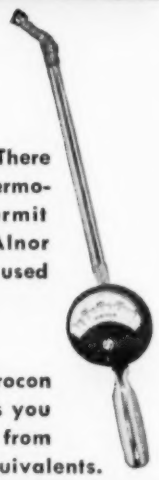
IN FIVE SECONDS!



PYROMETERS



ANY SURFACE...
revolving, stationary, flat or curved. There are more than a thousand different thermocouples in the Alnor line that permit measurement of *any* temperature. Alnor Portables are self-contained...can be used anywhere.

FULL LINE...
of pyrometers from the hand-held Pyrocon (right) to case-mounted models gives you one source for all pyrometer needs from —100°F to 2000°F and Centigrade equivalents.

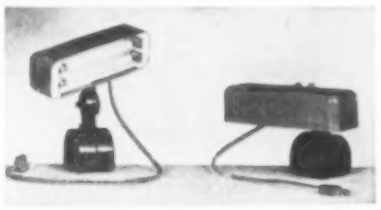
➡ for the complete story on Alnor Pyrometry

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

Room 529, 420 N. LaSalle Street, Chicago 10, Ill.

▲ For more details circle **NED-219 D5** on enclosed inquiry slip ▲

FLUORESCENT WORK LAMP
provides glareless illumination

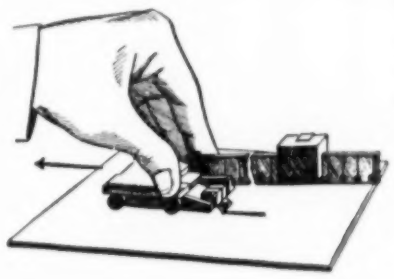


Cool fluorescent light is provided by the Magic Cold-Lite, a work lamp with an Alnico V permanent magnet-equipped base. It provides glareless illumination and can be placed close to the work. A two-button push-start switch gives immediate light from the two 4-w fluorescent tubes. The 45-lb lift magnet secures the fixture solidly at any angle on ferrous metal or linoleum covered steel desk or table tops. Made by **Standard Portable Cord Co.**, Dept. CL, Box 141, Mayville, N. Y.

▲ For more details circle **NED-220 D5** on enclosed inquiry slip ▲

SCRATCH-HARDNESS TESTER
for checking dried finishing films

Developed by the National Paint, Varnish and Lacquer Association, this Hoffman scratch-hardness tester is an easy-to-use instrument for checking the scratch-hardness and adhesion of industrial product finishes. It evaluates dried finish films. Illuminating Clarkstan microscope permits magnifying the width and character of the scratch mark made on various finishes by the tester. Tester and microscope are priced at $24.50 each. Distributed by **Gardner Laboratory, Inc.**, 4724 Elm St., Bethesda 14, Md.



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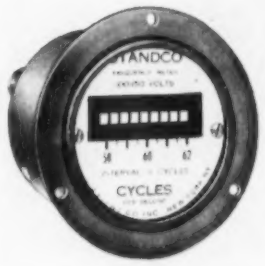
FREQUENCY METERS
direct reading resonance type



Molded Bakelite, metal and hermetically sealed cases are offered in line of 3½-in. flush panel mounting frequency meters. The Standco direct-reading meters operate on the resonance principle and consist of a number of steel reeds which are tuned to specific frequencies. Meters with 5, 7, 9, 11, 21, 36 or 41 reeds are available for normal frequencies of 25, 50, 60 and 400 cycles. Other ranges from 15 to 1500 cycles per second can be supplied. Accuracy of calibration is ±0.5-per cent. Made by **Herman H. Sticht Co.**, Dept. ED, 27 Park Pl., New York 7, N. Y.

▲ For more details circle **NED-222 D5** on enclosed inquiry slip ▲

THE *Sutton* **MOTOR DRIVEN PRESSURE BLOWER**

THREE SIZES
¼, ½, 1 H.P.

USE FOR
- EXHAUSTING
- DUST
- SMOKE
- FUMES
- VAPOR
- FORGE BLASTING

CONVEYING COTTON, WOOL, SHAVINGS
COOLING AND DRYING

MADE OF LIGHTWEIGHT CAST ALUMINUM ALLOY. CENTRIFUGAL TYPE. Direction of discharge may be changed to any of eight 45 degree positions. Straight wall construction reduces windage and increases efficiency. Standard 3450 r.p.m. direct-connected 60-cycle ball bearing motor, open or totally enclosed types. Capacities, 100 to 800 cu. ft. per min. at static pressures from ½" to 6". Write for literature and prices.

Sutton *Manufacturing Corp.*
112 W. WILSON AVENUE NORFOLK, VIRGINIA

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ROLLAWAY SEMI-LIVE SKIDS AND JACKS

FEATURING THE **RE-NU TOP**

Steelbound Rollaway Skids combine the best features of bolted and welded designs. The frame supporting members are arc-welded, and the renewable hardwood deck is tightly clamped with steel bolts of extra tensile strength. Welded-in, heat-treated, steel connecting pin. Semi-steel rubber-tired or Flor-Savr wheels with Hyatt roller-bearings, heat-treated steel axles.

CAPACITIES:
1500, 2500, and 5000 POUNDS

YALE AND TOWNE ROLLAWAY JACKS are stocked at the Lanham Company's plant and are sold and shipped directly from Keokuk for use with ROLLAWAY SKIDS.

LANHAM SKID CO.
DIVISION OF THOMAS TRUCK & CASTER CO.
591 On the Mississippi River, Keokuk, Iowa

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The pick of the field- ARco RUBBER INSULATED METAL PARTS . . .

● Standard or special ARco clips, clamps and other rubber insulated metal parts . . . these can add electrical and sound insulation; corrosion and abrasion resistance to cable, loom, tube, wire, rod and pipe products.

You can improve the utility and durability of your product by requesting expert ARco engineering counsel; sample rubber insulations on your standard parts, and quantity estimates. These ARco services are yours without obligation.

Valuable literature available—Write today!

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ARco RUBBER PROCESSORS
4033 Homestead Rd. • Houston, Texas

ANYTHING CAN BE COVERED WITH RUBBER BY . . . ARco

▲ For more details circle **NED-225 D5** on enclosed inquiry slip ▲

For fast, accurate inspection and measurement

Fast, accurate, and requiring little skill to operate, the Kodak Contour Projector may well be the answer to your inspection, assembly, or measurement problems.

Few objects are too small or complicated for rapid, complete inspection under magnification with a Kodak Contour Projector. And you can handle large parts, too, for there's an unvarying 8 inches between lens and object at all magnifications from 10× to 100×. Surface illumination for checking blind holes, cavities, or other surface features is available by the mere flick of a switch.

To learn how the Kodak Contour Projector can be used in your plant, send for Booklet F1-68.

Special Products Sales Division
EASTMAN KODAK COMPANY
Rochester 4, N. Y.

the KODAK CONTOUR PROJECTOR

Kodak TRADE-MARK

▲ For more details circle **NED-226 D5** on enclosed inquiry slip ▲

Saves Soldering time!

KESTER FLUX-CORE SOLDER is a famed *time-proved time-saver* on every soldering operation, many of them just like yours. If you, too, are interested in increased speed and efficiency, now's the time to switch to Kester . . . the right name to remember for top quality solder.

"SOLDER . . . Its Fundamentals and Usage," a valuable 78-page Kester textbook. Send for your free copy today.

KESTER SOLDER

COMPANY 4249 Wrightwood Avenue, Chicago 39, Illinois
Newark 5, New Jersey • Brantford, Canada

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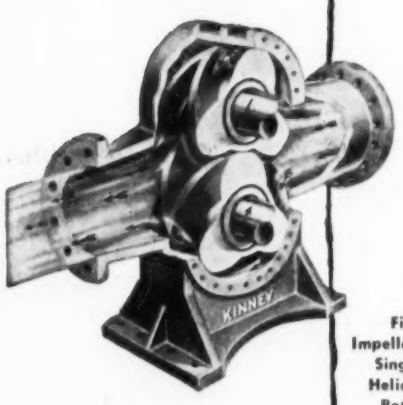
Pick your ROTOR by what you PUMP



While every Kinney Heliquad Rotary Pump has wide-range versatility, not every pumping problem requires the same set of rotors. Kinney offers you four basic rotor designs which can be engineered to your own specific pumping requirements. The rotors vary in type from those used for hot oils and non-viscous liquids at ordinary temperatures to those used for viscous liquids which are semi-solids. The rotors are driven through timing gears and bearings external to the pumping chamber. Each Kinney Heliquad Pump, regardless of rotor design, provides efficient positive-displacement handling of even the most difficult materials. This design insures against friction and wear in the cylinder.

Kinney offices at Chicago (La Grange), Cleveland, Detroit, Houston, Los Angeles, New Orleans, New York, Philadelphia, and San Francisco are competently staffed to help you obtain the right pump for your requirements.

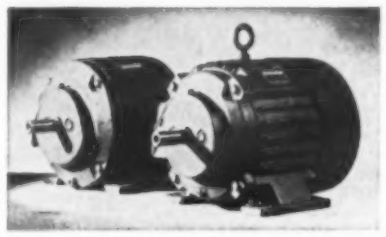
KINNEY MFG. DIVISION
THE NEW YORK AIR BRAKE COMPANY
3612 WASHINGTON STREET • BOSTON 30 • MASS.

Name .....
Company .....
Street .....
City ..... State .....

Kinney

▲ For more details circle NED-228 D5 on enclosed inquiry slip ▲

PROTECTED MOTORS
1 to 40-hp models offered



Protection against drip, splash or falling objects is offered in any position by line of totally - protected alternating current motors. Ventilation louvers are high in the end brackets and the frame extends beyond the coil heads for winding protection. Motors feature cast frames, plastic sleeving that protects brazed coil head connections, neoprene gaskets between frame and conduit box and bearing mountings placed close to the frame. Motors are offered in fan-cooled, corrosionproof and explosionproof designs, rated at 1 to 40 hp, 110 to 550 v ac. Made by **Reliance Electric & Engineering Co.,** 1082 Ivanhoe Rd., Cleveland 10, O.

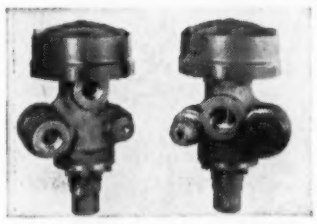
▲ For more details circle NED-229 D5 on enclosed inquiry slip ▲

MASONRY DRILL
made in 1/4 to 6-in. diameters

Capable of drilling a 1-in. hole 4 in. deep in concrete and stone aggregate in less than 50 seconds, Core - Vent masonry drill removes the core and leaves an accurately sized hole. Removable shanks are standard on all drills over 5/8-in. All tools from 1/4 to 6-in. size have large carbide inserts. Made by **Super Tool Co.,** 21640 Hoover Rd., Detroit 13, Mich.

▲ For more details circle NED-230 D5 on enclosed inquiry slip ▲

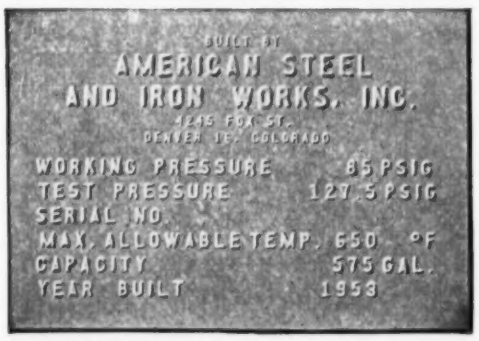
TWO-PRESSURE VALVES
for hydraulic presses and cylinders



Type E360 two-pressure operating valve is used to supply cylinders or hydraulic press rams where low pressure hydraulics can be used for traverse, but where higher pressures must be applied for squeeze or holding. Valve is a cylinder operated, self-contained unit consisting of three-way valve, controlled speed check valve and automatic high pressure inlet valve. It is normally operated at 35 to 50 psi air pressure, or water or oil to 100 psi. Snap ring permits release of the cylinder top which can be lifted off as an assembly. Sizes from 1 to 3 in. are available. Made by **Emmett Machine & Mfg., Inc.,** Dept. NE, 445 E. Turkeyfoot Lake Rd., Akron 19, O.

▲ For more details circle NED-231 D5 on enclosed inquiry slip ▲

SAVE MONEY USING



EMBOSSED LABELS
FOR PRODUCT IDENTIFICATION

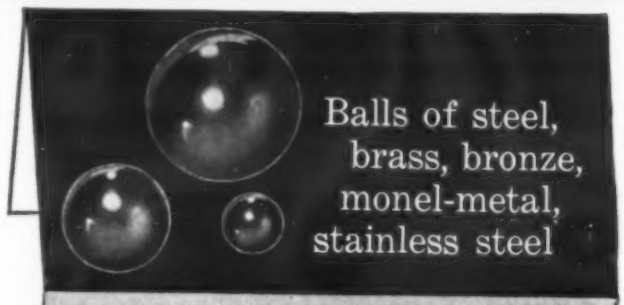
MADE TO YOUR SPECS—
Any size label—Any size letters. Any metal—ferrous or non-ferrous. Tack-weld, rivet or screw them to your product. Paint or galvanize over them and type remains sharp, clear, legible.

Cost less because no charge for die to produce the raised letters

FREE Send us a rough sketch of your needs with quantity and receive our suggestions, price quotation, and samples of similar labels.

TECH PRODUCTS, INC.
442 MOSEL AVENUE STATEN ISLAND 4, N. Y.

▲ For more details circle NED-232 D5 on enclosed inquiry slip ▲



Balls of steel, brass, bronze, monel-metal, stainless steel

BALLS
HOOVER
BALL BEARINGS

America's only ball bearings with Honed Raceways

The Aristocrat of Bearings

HOOVER BALL and BEARING COMPANY
Ann Arbor, Michigan

▲ For more details circle NED-233 D5 on enclosed inquiry slip ▲

cut weld cleaning time by 85%

Throw away your cold chisel and whisk off weld spatter with a dry rag! Protect-O-Metal spatter-proofing compounds make weld cleaning a breeze. Improve your welds at the same time - - P-O-M compounds quiet the arc, improve fusion and electrode operation, prevent oxidation and annealing scale, cause no porosity. No smoke, odors, or fumes.

P-O-M No. 2. Non-inflammable, non-toxic, water-soluble paste. Inorganic. Thin before applying and start welding at once. $3.25 per gallon, f.o.b. Dayton.

P-O-M No. 8. Rust- and corrosion-resistant resin base compound. Comes ready to use. Safe for all metals. Good paint primer; permits outdoor storage of subassemblies. $3.30 per gallon, f.o.b. Dayton.

MONEY-BACK TRIAL OFFER
Order a trial gallon of each today for testing in your shop. We'll cancel the bill if you're not satisfied.

PROTECT-O-METAL
G. W. SMITH & SONS, INC. 5406 KEMP ROAD, DAYTON, O.

▲ For more details circle NED-234 D5 on enclosed inquiry slip ▲

with this corrosion resistant valve . . .
YOU GO FROM FULL OPEN TO FULL CLOSED IN A 180° SWING OF THE LEVER

HILLS-McCANNA
Quick Opening
SAUNDERS PATENT DIAPHRAGM VALVES

Dependent upon materials and size, Hill-McCanna Saunders Patent Valves are suitable for temperatures to 400°F., pressures to 150 psi. Write for descriptive literature.

HILLS-McCANNA
Saunders Patent
diaphragm valves

HILLS-McCANNA COMPANY, 2455 Nelson Avenue, Chicago 18, Ill.

▲ For more details circle NED-235 D5 on enclosed inquiry slip ▲

Beware the BULBEAR

CHAMPION Lamps

The unbearable Bulbear has a ravenous appetite for expensive "juice". He lurks around plants that are careless about lamp maintenance* and he takes a healthy bite out of working efficiency unless you are careful to keep amply supplied with high quality, long-lasting *Champion Lamps*.

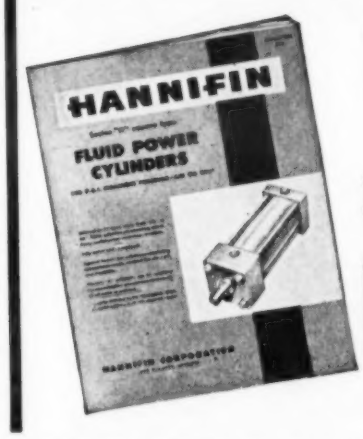
*The Champion Maintenance Manual is full of simple, sensible suggestions on how to make the most of your lighting and lamps. May we mail you a copy?

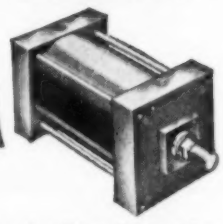
CHAMPION LAMP WORKS

304 Lynnway Lynn, Massachusetts

▲ For more details circle NED-236 D5 on enclosed inquiry slip ▲

EVERY ENGINEER will want a copy of this BULLETIN





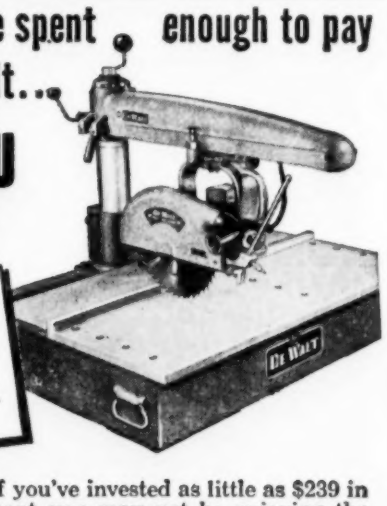
WRITE FOR BULLETIN 213. Complete details and mounting dimensions on Hannifin Series "A" Square Type Fluid Power Cylinders, usable up to 200 psi, air or oil. This is the cylinder with the new, externally removable cartridge gland...the biggest improvement in cylinder design in the last 50 years. The "A" line is complete! 11 bore sizes from 1½" to 14"—13 standard mountings, many combinations. Steel heads. Brass bodies. Piston rods ground, polished and hard chrome plated. Send for Bulletin 213. It's the easiest catalog to use in the cylinder business.

HANNIFIN

Hannifin Corporation, 527 S. Wolf Road, Des Plaines, Ill.
Air and Hydraulic Cylinders • Presses • Air Control Valves

▲ For more details circle NED-237 D5 on enclosed inquiry slip ▲

You may have spent enough to pay for an AMF De Walt... BUT DO YOU OWN ONE?



New model GW-I 10" Saw with FULL 1½ H.P. Motor . . . complete for only $395 DELIVERED (custom-built 1½ H.P. Motor, 10" saw blade, 4 detachable steel legs included)

Even if you've invested as little as $239 in shop equipment you may not be enjoying the benefits of a De Walt®. One low-cost AMF De Walt...

- Does ALL the work of a swing saw, straight line cut-off and miter saw, table-type rip saw, dado machine, shaper plus many others.
- Saves you up to 60% in capital equipment investment.
- Saves you up to 75% in floor space.

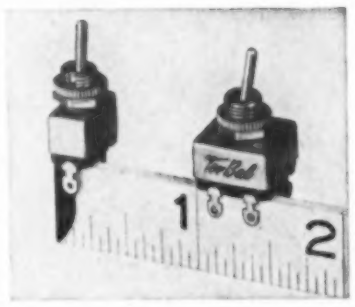
These and many other AMF De Walt advantages are explained fully in our *free* new idea book for industry. SEND FOR IT TODAY! Write AMF De Walt, Dept. NED-4, Lancaster, Pa.

FREE! Send for new idea book on industry!

Another AMF Product DE WALT POWER TOOLS

▲ For more details circle NED-238 D5 on enclosed inquiry slip ▲

MINIATURE TOGGLE SWITCH rated 10 amp at 50 v dc



Reduced by half in size and weight from former similar capacity units, Tor-Bal subminiature toggle switches have contact ratings of 10 amp on 50 v dc. They are double-throw type in single and double pole designs. Particularly suitable for applications where weight and space savings are important, switches can be supplied with silicone boot to cover the handle for panel sealing. Made by **Torsion Balance Co.**, Clifton, N. J.

▲ For more details circle NED-239 D5 on enclosed inquiry slip ▲

ELECTRIC HEATING UNIT right angle type in two sizes

Leads emerge from the ceramic head of this electric heating cartridge at right angle, eliminating stresses on the leads where a 90-degree turn is required. Leads of right angle type require minimum installation space on the longitudinal dimensions. Units are available in ⅜ and ½-in. diameters. Made by **Watlow Electric Mfg. Co.**, 1374 Ferguson Ave., St. Louis 14, Mo.

▲ For more details circle NED-240 D5 on enclosed inquiry slip ▲

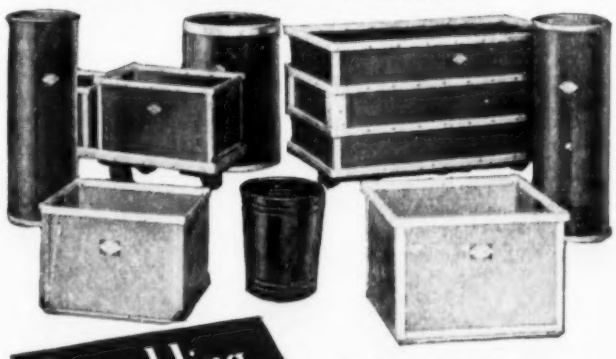
PHASE SEQUENCE INDICATOR for use on circuits up to 600 v

Indication of the different voltage peaks of a multiphase supply is furnished in order of succession in time by the model K-3 Knopp phase sequence indicator. Adaptable to continuous testing, it is used in making three-phase circuit installations or alterations and replacement installations of motors and generators. Indicator is used over a wide voltage range up to 600 v without changing taps or dials. Use can be on frequencies above the normal 60 cycles. The 36-in. leads are sheathed with rubber for 20 in. Additional uses include determining phase order of six-phase circuits and identifying polarity of wires of the same polyphase system. Made by **Electrical Facilities Inc.**, 4254 Holden St., Oakland 8, Calif.

▲ For more details circle NED-241 D5 on enclosed inquiry slip ▲

SEND FOR FREE CATALOG ON SPAULDING FIBRE RECEPTACLES

A complete line of tough, lightweight, shock-proof containers for storage and materials handling. Resistant to moisture, impact and abrasion. Won't splinter or corrode.



Spaulding

Boxes, barrels, trays, trucks in all sizes and weights.

SPAULDING FIBRE CO., INC., DOVER, N. H.

Please send me by return mail your catalog on Spaulding's complete line of Fibre receptacles.

Name _____
Firm _____
Address _____
City _____ Zone _____ State _____

▲ For more details circle NED-242 D5 on enclosed inquiry slip ▲

DeLuxe

built-in FEATURES CUT INSTALLATION EXPENSE by 50%

By built-in features we mean the components of DELUXE steel shelving are made *at our factory*. This permits easy assembly *without* the tedious, time-consuming jobs found necessary in assembling ordinary shelving.

Your DELUXE dealer and our design engineering and estimating department, without obligation, will be pleased to work up an installation to fit your requirement—and show you how you can save 50% of installation expense.

SIX REASONS WHY

- Boltless shelf brackets
- One-piece bin type uprights
- Factory imbedded shelf reinforcing
- Patented snap-on dividers
- One-piece backs
- Coped shelves - flush appearance

FREE 48 PAGE CATALOG

Here is the DELUXE craftsmanship story . . . told in this 48-page fully illustrated catalog. Request your free copy.

Be sure to see our exhibit in Booth 1972, at the 6th National Materials Handling exposition in Chicago—May 16-20, 1955.

A division of Royal Metal Manufacturing Company

DELUXE METAL FURNITURE COMPANY

337 STRUTHERS ST., WARREN, PENNSYLVANIA

▲ For more details circle NED-243 D5 on enclosed inquiry slip ▲

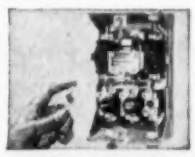
New Spectacular ★★★ Combination Starters

Users have had many dramatic proofs of the advantages built into Cutler-Hammer ★ ★ ★ Motor Control. They *know* the three silver stars on the Cutler-Hammer nameplate identify control equipment that sets three entirely new standards of motor control performance and value. Star #1: Amazing savings in installation costs which often exceed the cost of the control. Star #2: Performance so uniform and dependable that *this* control often saves many times its cost by the production interruptions it avoids. Star #3: Life so greatly increased that this control *never* requires maintenance expense in 90% of its uses.

Now combination starters are available in this spectacular new line of Cutler-Hammer ★ ★ ★ Motor Control. Your nearby Cutler-Hammer Authorized Distributor has been stocked and is ready to serve you. Bulletin 9589 Starters incorporate a rugged disconnect switch of advanced design with or without fuses. Bulletin 9591 Starters are equipped with circuit breakers. Order *now* for prompt delivery.

CUTLER-HAMMER, Inc., 1377 St. Paul Avenue, Milwaukee 1, Wisconsin.

FULL THREE-PHASE PROTECTION



ADJUSTABLE LOAD SENSING COILS

SUPERLIFE VERTICAL CONTACTS

CUTLER-HAMMER ★★★ MOTOR CONTROL C-H

▲ For more details circle NED-244 D5 on enclosed inquiry slip ▲

IMMEDIATE DELIVERY
FROM FACTORY STOCKS

Is rust or corrosion in your lines a problem? Must your lines resist acids, remain sanitary? Now you can get immediate shipment from our factory of #303 and #316 Stainless Steel Snap-Tite Couplings. No waiting for special production runs on sizes through 2".

Steady demand has made Stainless Steel Couplings a standard Snap-Tite product. And, because they're standard, the price is lower.

Liberal discounts to O.E.M. users

SNAP-TITE COUPLINGS CAN HANDLE ALMOST ANYTHING THAT FLOWS

See Snap-tite's representative or write for Bulletin 240

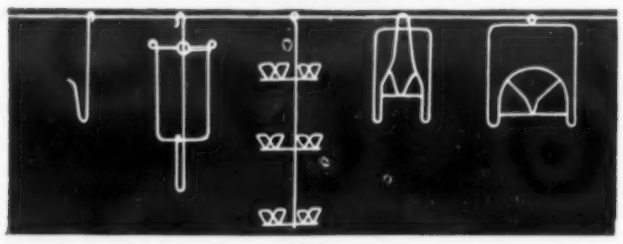
Snap-tite, INC.
UNION CITY 4, PENNSYLVANIA

▲ For more details circle **NED-245 D5** on enclosed inquiry slip ▲

Come to "Wire Goods Headquarters" for

OVERHEAD Conveyor

- HOOKS
- CARRIERS
- HANGERS
- HOLDERS
- SHACKLES
- RACKS
- ETC.



Tell your Problem to Titchener!

Specialists in welded-wire products, our wide experience can solve your problem. From simple hooks for small parts to complicated product-holding carriers . . . from shackles for poultry on processing lines to holders for electric light bulbs — Titchener makes 'em all.

If you have a conveyor parts-holder problem, let us help you. In two recent cases, we were able to cut the cost of a bulb holder 50%, and of a poultry shackle 75%! Perhaps we can do the same for you.

WIRE GOODS Headquarters

- Our new case history booklet contains a few specific examples of what we've done in this field. Write for your free copy.

E.H. Titchener & Co.
79 CLINTON ST. • BINGHAMTON, N.Y.

▲ For more details circle **NED-246 D5** on enclosed inquiry slip ▲

SEAL OFF LEAKS

✔Quick!
✔Easy!
✔Low Cost

Stop Moisture Penetration thru Basement Walls . . .

Leaks in concrete walls, masonry, cinder block, etc. can be stopped quickly with FLEXTITE. Actually seals against water pressure. Efficient as a trowel coat for sealing off water and dampness. Transforms leaky basement walls into dry surfaces. Used in elevator pits, tunnels, dams, tanks, retaining walls, etc. (Minimum quan. 6 gal.)

MAIL COUPON for TRIAL OFFER!

FLEXTITE

FLEXROCK COMPANY
3603-F Filbert St., Philadelphia 1, Pa.
Offices in Principal Cities
Please send me complete FLEXTITE information and details of TRIAL ORDER PLAN—no obligation
Name .....
Company .....
Address .....

▲ For more details circle **NED-247 D5** on enclosed inquiry slip ▲

ANGLE COUNTER
indicates up to 359 degrees

Useful in clockwise, counterclockwise or reversible application, model 1502 angle counter indicates angular changes from 0 to 359 degrees, then back to 0 in 1-degree divisions. One revolution of input shaft is equal to one revolution of the drum unit. Input speed is rated at 500 rpm. All internal parts are treated for corrosion resistance. Made by **Bowmar Instrument Corp.**, 2421 Pennsylvania St., Ft. Wayne, Ind.

▲ For more details circle **NED-248 D5** on enclosed inquiry slip ▲

DRYWALL TAPE DISPENSER
holds rolls up to 250-ft long

Application of drywall tape is facilitated with the Speedy Sparker applicator, a tool which dispenses, cuts off and places the tape over the seam in one motion. It eases making of straight seams and operates equally well on horizontal, vertical, corner and ceiling joints. Lightweight stainless steel tool can be refilled in a few seconds and holds tape up to 2⅛ in. wide and up to 250 ft long. Made by **Goldblatt Tool Co.**, Dept. Y49, 1960 Walnut St., Kansas City, Mo.

▲ For more details circle **NED-249 D5** on enclosed inquiry slip ▲

AIR FILTER
for air-operated apparatus

Phenolic resin impregnated cellulose cylinder, the filtering element in the model F-1 air filter, removes dirt particles as small as 40 microns on standard models or smaller on special order. Device is used with instruments, air tools, spray painting equipment and other air-operated apparatus. Filtering element is easily removed for cleaning in almost any solvent, including kerosene or gasoline. Of all-brass construction, it has ¼-in. NPT connections and is available with wall mounting bracket if desired. Made by **Conoflow Corp.**, 2101 Arch St., Philadelphia 3, Pa.

▲ For more details circle **NED-250 D5** on enclosed inquiry slip ▲

Comfortable

Knit-lined PIONEER Stanzoils®

At home a dog offers its owner a daily example of real comfort. PIONEER's objective in designing Stanzoil Duplex Industrial Gloves is to give those who wear them the same kind of comfort at work. For comfortable hands are busy hands, and protected hands are healthy hands.

Where comfort, maximum protection, tensile strength and abrasion, tear, aging, flame and heat resistance are important, and a safe non-slip grip necessary . . . where resistance to alcohols, acids, bases, oils, amines, greases or ketones is essential . . . where all these specifications form the basis for your buying decision, there's only one answer . . . PIONEER's Neoprene Stanzoil Duplex Gloves.

Pick the best, most economical glove for the job from 32 PIONEER styles (including neoprene, rubber and plastic gloves), weights, sizes, and colors shown in the "PIONEER Industrial Glove Catalog."

NL-42 Duplex is a *heavy weight* elastic knit-lined glove of oil, acid resistant neoprene with straight fingers and non-slip grip. Sizes 10, 11, in a 12" length.

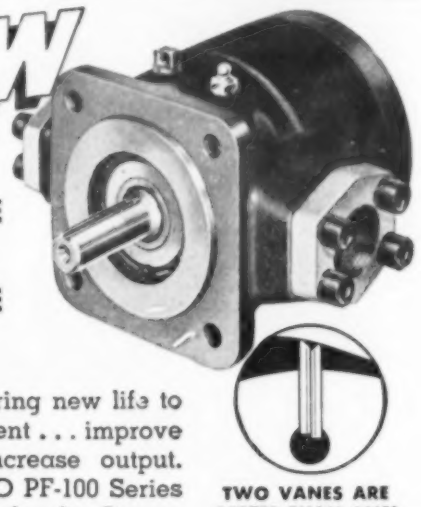
PIONEER Stanzoil

the PIONEER Rubber Co 234 Tiffin Road Willard, O., U.S.A.

Quality Gloves for over 35 Years

▲ For more details circle **NED-251 D5** on enclosed inquiry slip ▲

NEW



A HIGH PRESSURE PUMP AT A LOW PRESSURE PRICE!

Now you can bring new life to existing equipment . . . improve performance, increase output. The new DUDCO PF-100 Series DUAL-VANE Hydraulic Pumps give continuous 2000 psi premium performance . . . they are interchangeable with and *cost less* than older, conventional *low pressure* pumps of equal capacity.

TWO VANES ARE BETTER THAN ONE!

The hydraulically balanced DUAL-VANES in DUDCO Pumps, as contrasted with conventional designs, maintain MULTIPLE AREAS OF CONTACT ON THE CAM RING . . . doubling the number of effective barriers to slippage and power loss. This patented principle is an exclusive DUDCO feature!

Free! Bulletin DP-302A tells what the new PF-100 Series Pumps can do for you . . . how you can modernize equipment and save money. Write Today!

DUDCO DIVISION
THE NEW YORK AIR BRAKE COMPANY
1708 EAST NINE MILE ROAD • HAZEL PARK • MICH.
INTERNATIONAL SALES OFFICE, 90 WEST ST., NEW YORK 6, N. Y.

▲ For more details circle **NED-252 D5** on enclosed inquiry slip ▲

Employment record of a MACK-HEMP lathe

Alloy steel forging, 14 feet long x 48 inches max. diameter, being turned on the 60-inch Mack-Hemp lathe in #3 Machine Shop at U. S. Steel's Homestead District Works, Munhall, Pa.

On the job 11 years! At work 24 hours a day!

It's actually more than eleven years since this Mack-Hemp lathe went to work for U. S. Steel Corporation. During those eleven years it has been in operation almost continuously, 24 hours a day.

The service record of this particular lathe is impressive for still another reason than the more than 90,000 hours of work it has performed. Since it was built, the growth of tungsten carbide tooling has placed additional loads on all heavy-duty engine lathes.

The operating conditions on the product being machined demonstrate how this Mack-Hemp lathe stands up under the heavier demands placed on it—

- **Forging—nickel—chrome—molybdenum steel**
- **Lathe Speed—22 R.P.M.**
- **Feed Speed—1/16 inch per revolution**
- **Cut—½ inch deep**
- **Tool—Kennametal tungsten carbide**

There are three Mack-Hemp engine lathes in this machine shop—all proving daily that these lathes can take it day after day, year after year.

If you're doing any kind of work requiring large engine lathes or electronically controlled contouring lathes, you should get in touch with Mack-Hemp at 951 Bingham, Pittsburgh 3, Pennsylvania.

MACKINTOSH-HEMPHILL COMPANY
Makers of the rolls with the striped red wabblers
PITTSBURGH AND MIDLAND, PA.

MACKINTOSH-HEMPHILL PRODUCTS INCLUDE: all types of cast mill rolls . . . improved Johnston patented corrugated cinder pots and slag handling equipment . . . Mackintosh-Hemphill rotary straighteners . . . electronically controlled contouring lathes . . . screw feed roll turning lathes . . . heavy-duty engine lathes . . . shears . . . end-thrust bearings . . . steel and special alloy castings . . . reversing hot strip mills . . . Y-type cold strip mills.

▲ For more details circle **NED-253 D5** on enclosed inquiry slip ▲

AIR-POWERED ROTARY WORK FEEDER *Doubles* DRILL PRESS OUTPUT

Feeds parts quickly, safely, to and from drill press spindles, press rams, etc. Can be electrically interlocked with spindle movement. Operator can use both hands to load and unload safely away from tool. Three models: 10", 22", and 26" diameter table tops. Can be provided to position any number of stations up to 36.

Write for Bulletin T-85. Free on request. Address Dept. NED 455.

822A

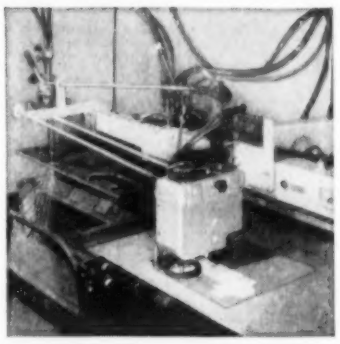
The Bellows Co.
AKRON 9, OHIO

▲ For more details circle **NED-254 D5** on enclosed inquiry slip ▲

SIMPLIFY **Your Shape-Cutting Jobs with the...**

OXWELD Automatic Tracer

Trade-Mark



- Positive templet contact... electronic steering control ... maximum tracing accuracy
- Templets are easy to make, low-cost
- No kerf allowance required in templet
- Dynamic braking prevents overruns
- Local or remote controls ... simple to operate

With an OXWELD Automatic Tracer to guide your oxygen-cutting machine, you need never forego the advantages of templet tracing because of time or cost. Just cut actual size templets out of thin plastic sheet with scissors—that's all! Tracer follows practically any templet shape within extremely close tolerances. Drive action is smooth and steady with both single- and multiple-blowpipe setups. Write today for free booklet F-8086.

LINDE AIR PRODUCTS COMPANY
A Division of Union Carbide and Carbon Corporation
30 East 42nd Street New York 17, N. Y.
Offices in Other Principal Cities
In Canada: DOMINION OXYGEN COMPANY, LIMITED, Toronto

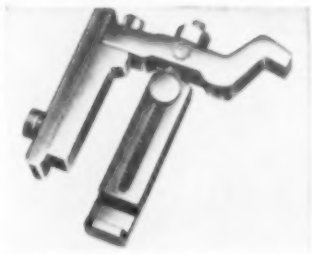
The term "Oxweld" is a registered trade-mark of Union Carbide and Carbon Corporation.

▲ For more details circle **NED-255 D5** on enclosed inquiry slip ▲

Export Dept.: Bessemer Bldg., Pittsburgh, Pa.

▲ For more details circle **NED-256 D5** on enclosed inquiry slip ▲

ADJUSTABLE WORK CLAMPS for toolroom set-up work



Offered in range of sizes to meet most toolroom needs, Hi-Lo Rapid adjustable clamps employ serrated design of T-bolt and clamp rest for quick height adjustment. Adapters for vertical angle plate clamping are offered. Four clamps have clamping ranges of 1½ to 2⅞ in. up to 8½ to 17 in. for all types of set-up work. Made by **Hi-Lo Tool Products Co.,** Dept. 1, 18525 Weaver Ave., Detroit 28, Mich.

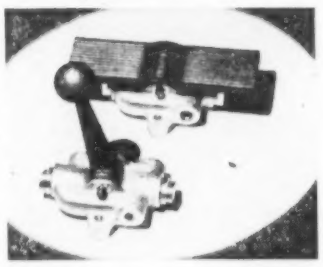
▲ For more details circle **NED-257 D5** on enclosed inquiry slip ▲

SMALL EXPLOSIONPROOF MOTORS in fractional horsepower sizes

Designed to provide long life and safe operation in hazardous atmospheres, line of explosionproof fractional horsepower electric motors is UL-approved for class I, group D; and class II, group E, F and G atmospheres. Heavy cast iron end shields afford extra protection. Oxidation resistant grease in ball bearings also resists moisture attack for minimum maintenance. Made by **General Electric Co.,** Schenectady 5, N. Y.

▲ For more details circle **NED-258 D5** on enclosed inquiry slip ▲

THREE-WAY VALVE for fluid pressures to 200 psi



Venturi-type model HF-3 hand and foot-operated three-way valve has built-in, full-flow capacity of ¼-in. ID pipe or equivalent of 50 cfm at 50 psi. Valve was designed for air, oil and water pressures of 0 to 200 psi and is recommended for small single-acting cylinders. It can be furnished either locking (two-positions standard) or nonlocking and can be ordered, locking with neutral. Spring return is also available and can be supplied on all nonlocking models for on or off positions. Valve body is aluminum alloy 195 and poppets are hard brass. Maximum operating temperature is 175° F. Made by **Airmatic Valve, Inc.,** 7317-A Associate Ave., Cleveland 9, O.

▲ For more details circle **NED-259 D5** on enclosed inquiry slip ▲

Quality...
WHERE YOU NEED IT MOST

Fig. 433 Pop Safety Valve

Fig. 658 Relief Valve

LUNKENHEIMER
POP SAFETY AND RELIEF VALVES

Abnormal overpressures are dangerous — and that's why it pays to insist on Lunkenheimer quality when you specify or buy Pop Safety or Relief Valves for any service. Lunkenheimer design, materials, and workmanship are world-famous for excellence. Their record of performance is unsurpassed.

THE DIFFERENCE BETWEEN POP SAFETY AND RELIEF VALVES

Pop Safety Valves are used with gases, including steam. They pop wide open when the set pressure is reached . . . snap shut when it has dropped.

Relief Valves are used with liquids. They start to open at the set pressure but require about 20% overpressure to open wide. They start to close as soon as pressure drops and shut tight when the set pressure has been reached.

WRITE FOR CIRCULAR 502

The Lunkenheimer Co., Cincinnati 14, Ohio.

LUNKENHEIMER®
THE ONE *Great* NAME IN VALVES

L-254-3A

▲ For more details circle **NED-260 D5** on enclosed inquiry slip ▲

NORGREN AUTOMATIC-DRAIN FILTER IN MICRO-FOG LUBRO-CONTROL UNIT

New Lubro-Control model 33AB-4 lubricates up to 1000 bearing inches.

prevents contamination of oil supply

assures clean, dry air

- removes grit, pipe scale and moisture from the air line, thus prevents contamination of oil supply.
- drains automatically. Operates independently of air pressure fluctuation and air flow.

Filtering the air that powers your equipment is essential!

Write for Catalog Sheets 3-6

C. A. Norgren CO.
3405 So. Elati, Englewood, Colo.

▲ For more details circle **NED-261 D5** on enclosed inquiry slip ▲

B.F.Goodrich

FREE TW TIRE AND WHEEL ANALYSIS can solve your tire problems, reduce costs 20-50%

The B. F. Goodrich Tire and Wheel Analysis Plan has reduced industrial tire costs 20 to 50% for hundreds of users. This free service can help cut *your* tire and tire maintenance costs. Contact your local BFG retailer or mail the coupon below. Without cost or obligation a trained B. F. Goodrich man will study your materials handling operations. He will tell you what type and size tire, what tread design and compound will serve you best. The advice you receive will be unbiased, for B. F. Goodrich makes a *complete* line of industrial tires. A special TW Analysis is available for manufacturers of industrial hauling equipment.

Here is an example of premature tire failure. BFG's TW Analysis shows you the reasons for such failures, prevents reoccurrences.

Free recommendations. The TW analysis man is an expert. His study and recommendations can help you reduce tire and tire maintenance expense.

The B. F. Goodrich Company
Tire & Equipment Division
Department TW-496, Akron 18, Ohio

Please send me:

- ☐ Additional information on your Tire and Wheel Analysis Plan
- ☐ Free copy of "Industrial Tire Guidebook"
- ☐ Free copy of "How to Get Extra Service out of Solid Industrial Tires"

Name_____
Company_____
Street_____
City_____ Zone____ State____

Specify B. F. Goodrich tires when ordering new equipment

RESEARCH KEEPS B.F.Goodrich FIRST IN RUBBER

▲ For more details circle **NED-262 D5** on enclosed inquiry slip ▲

Added Evidence that — Everyone Can Count on

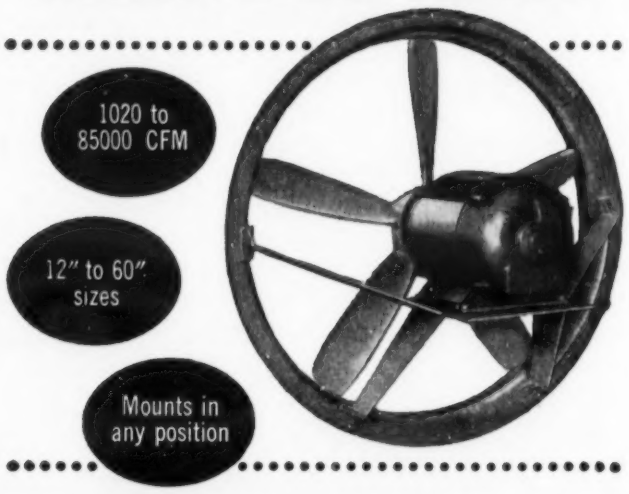
VEEDER-ROOT

For moderate counting duty, where extreme long life is not required, this new small reset counter is completely reliable. Compact and easily connected, this counter may be actuated by any type of switch, relay or photoelectric unit. Recommended speed is 700 counts per minute. Power consumption is low . . . *and so is the price* . . . but still the same Veeder-Root high quality. So here again is proof that you can count on Veeder-Root for any type of counter . . . electrical, mechanical or manual . . . for any type of duty in any field from atomics to electronics. What do *you* need to count? Write:

VEEDER-ROOT INC. Hartford 2, Conn.

▲ For more details circle NED-264 D5 on enclosed inquiry slip ▲

Most versatile of all industrial fans



PROPELLAIR TYPE "CD" DIRECT CONNECTED FAN

Use this heavy-duty fan for ventilation . . . to exhaust heat, dust, moisture, fumes and smoke. It's powerful, dependable, efficient. Use it in ductwork, hoods, roof ventilators, wall mountings or for air circulation and cooling. Engineered to move a lot of air at low cost.

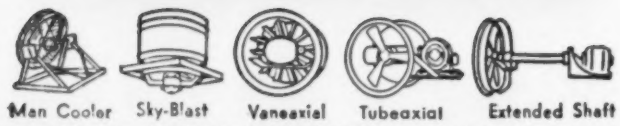
You get these important features:

- Cast aluminum airfoil propeller for greater efficiency
- Dependable R & M *All-Weather* Motor direct connected for long, trouble-free service
- Venturi entrance ring with tip seal to create efficient air flow
- Rugged steel motor support arms welded to entrance ring
- Explosion-proof and glass-insulated motors available
- Fan and motor covered by a single Robbins & Myers guarantee

Certified Ratings PEMA

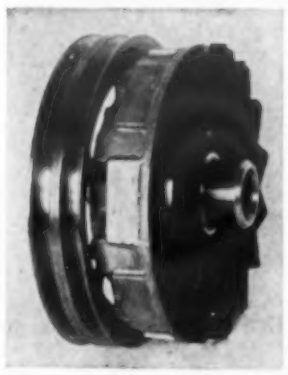
Write for Bulletin 690-N

R&M PROPELLAIR® DIVISION OF ROBBINS & MYERS · INC. SPRINGFIELD · OHIO



▲ For more details circle NED-265 D5 on enclosed inquiry slip ▲

FRICTION COUPLINGS will meter speed and torque

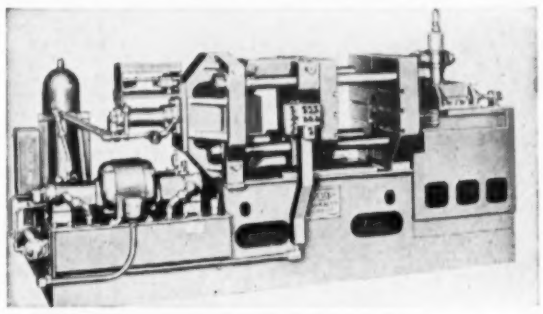


Designed to reduce power drag of such accessories as fans, pumps, generators and hydraulic power units on mobile equipment operating at high speeds, friction couplings impart slippage above certain preselected speeds. Coupling is composed of inner or driving source, outer housing and friction - control unit. Operated directly by engine power, inner drum's rotation depends entirely on engine speed. Outer housing, fitted with V-belt pulley, drives the accessory. Frictional control unit is between inner drum and outer housing. Springs plus centrifugal force actuate bearing blocks so that output speed is limited to a predetermined speed regardless of the input speed. Thus, the power absorbed by accessories at high engine speeds is held to a certain maximum. Developed by **Lipe-Rollway Corp.**, 806 Emerson Ave., Syracuse 1, N. Y.

▲ For more details circle NED-266 D5 on enclosed inquiry slip ▲

DIE CASTING MACHINE 400-ton clamping pressure for zinc, lead or tin casting

Gooseneck type model BH-30 zinc, lead and tin die casting machine has been improved by incorporation of 6-in. thick solid steel die plates, 4-in. diameter

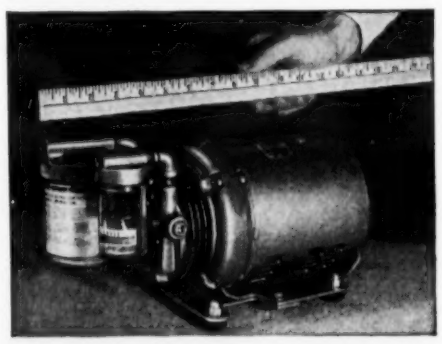


tie bars and a channel steel base which extends the entire length of the machine. This design provides the stability, rigidity and strength required for application of the 400-ton rated die clamping pressure capacity. Die space between tie bars is 32½ x 17¾ in. and die plates measure 44½ x 35¼ in.

The 12-in. die separation stroke permits production of deep drawing castings. New hydraulic system makes possible 10 cycles per minute. Each cycle is automatic after initiation. Machine can inject up to 25 lb of zinc at injection pressure of up to 2000 psi. It can be converted to a cold chamber injection machine for aluminum, brass, and magnesium casting production. Made by **Kux Machine Co.**, 6723 N. Ridge Ave., Chicago 26, Ill.

▲ For more details circle NED-267 D5 on enclosed inquiry slip ▲

NEW GAST Model 0211 AIR PUMP weighs ⅓ less — is a truly



COMPACT COMPONENT

This *new* Gast rotary-vane Air Pump offers many advantages, including: ⅓ less weight — (now 22 lbs.) — with more compact, streamlined design. Rotor mounted on new G. E. Form "G" motor shaft. Vanes give positive, pulseless air delivery. Rubber-cradled mounting dampens vibration, increases quiet.

Model 0211 produces up to 25 p.s.i. or 27" vac., or 1.3 c.f.m. running open. ⅙ h.p. motor uses only 3.8 amps. Ideal for automatic machines, industrial instruments and controls. Present uses: paper feeding in packaging, printing frames, or as portable laboratory air source.

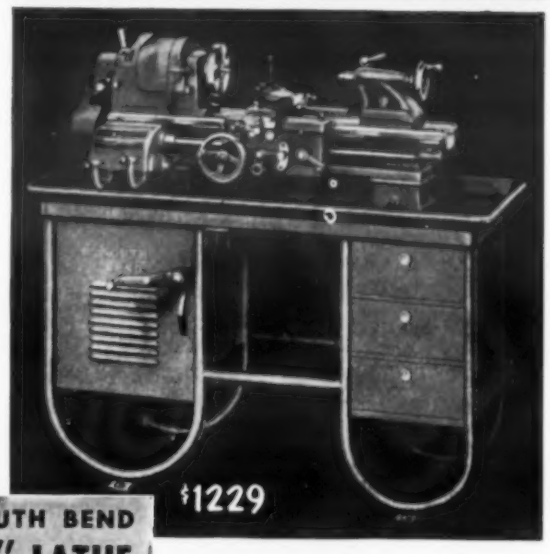
Let *your* product benefit from this compact component — *write for Bulletin 1254 and "Application Ideas" Booklet!* **Gast Manufacturing Corp.**, P.O. Box 117-R, Benton Harbor, Michigan.

Original Equipment Manufacturers for Over 25 Years

GAST ROTARY
- AIR MOTORS TO 4 H.P.
- COMPRESSORS TO 30 P.S.I.
- VACUUM PUMPS TO 28 IN.

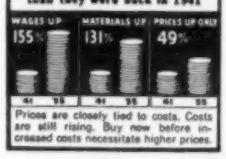
See Our Catalog in Sweet's Product Design File

▲ For more details circle NED-268 D5 on enclosed inquiry slip ▲



SOUTH BEND 10" LATHE

Compared with our costs OUR PRICES ARE LOWER than they were back in 1941



Prices are closely tied to costs. Costs are still rising. Buy now before increased costs necessitate higher prices.

This versatile lathe is an exceptional value. It has the accuracy, speed and operating ease to simplify the machining of a wide variety of precision parts. It can be depended upon to deliver the same high performance year-after-year with a minimum of maintenance. 1" collet capacity. Priced from $1229, less electrical equipment, f.o.b. factory. *Convenient time payment terms with only 3¼% interest on original unpaid balance. Write for complete information.*

SOUTH BEND LATHE
SOUTH BEND 22, INDIANA
Building Better Tools Since 1906

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PIC STEEL UNIONS

Pics *look* good on new equipment because their brightness blends perfectly. Pics *operate* well because a special wedge type bronze seat gives a tight, safe closure. They're strong also — ends are heavy steel pipe coupling stock, uniformly flat-sided for speedy installation with open end wrenches. 100% zinc plating protects against rust. Pics sell for *less* than a galvanized, *no more* than a black malleable union.

For 150# Service — Write for FREE Samples

DART UNION COMPANY
132 Thurbers Avenue, Providence 5, R. I.

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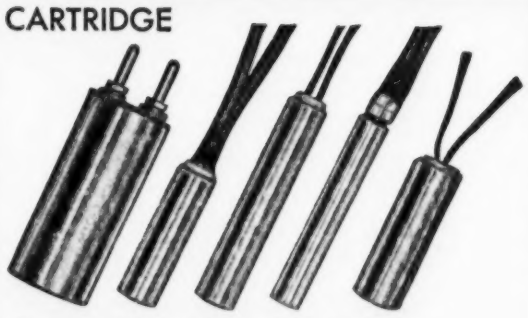
VULCAN ELECTRIC HEATING UNITS

CARTRIDGE



Concentrated electric heat for small areas.

Brass sheath for temperatures up to about 750°. Other metals for higher temperatures.

Standard sizes and types listed in the Vulcan catalog, or size, sheath, terminals and lead wires adapted to your specific problems.

From years of experience our engineers can give you competent advice on electric heating problems.

VULCAN ELECTRIC COMPANY
DANVERS 7, MASS.

Makers of Vulcan Electric Soldering Tools, Electric Solder Pots, Electric Branding Irons, Electric Heating Units and Electric Heating Devices.

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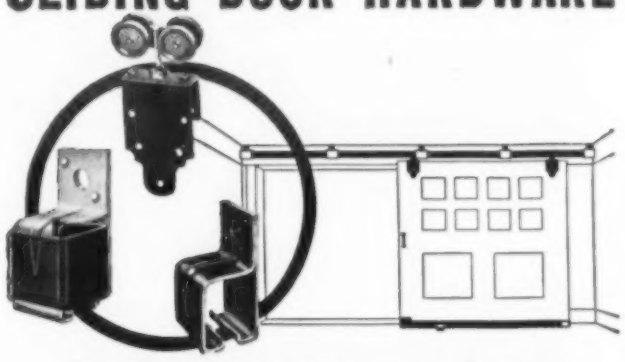
COBURN

SLIDING DOOR HARDWARE



For All Industrial Door Installations

- **Door hangers, brackets and track for doors weighing up to 1500 lbs.; up to 3 inches thick.**
- **Straight and curved track in standard lengths of 6, 8 and 10 feet.**

For information write to Sales & Engineering, 56 Sterling Street, Clinton, Mass.; or see your classified telephone directory.

2685

COBURN PRODUCTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION CF&I

▲ For more details circle **NED-272 D5** on enclosed inquiry slip ▲

ARMSTRONG

SET-UP and HOLD-DOWN TOOLS

ARMSTRONG Set-up and Hold-down Tools reduce setting-up time—keep men and machines producing. Designed for use on planers, drill presses, milling machines, etc., they hold work securely and rigidly, and thereby reduce spoilage and prevent costly accidents.

Your local Armstrong Distributor carries ARMSTRONG Set-up and Hold-down tools in stock in sizes for every operation. Stop haphazard setting-up methods. Provide each of your machines with a full complement of ARMSTRONG Set-up and Hold-down Tools.

Write for circular

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
5245 W. ARMSTRONG AVE. • CHICAGO 30, U.S.A.

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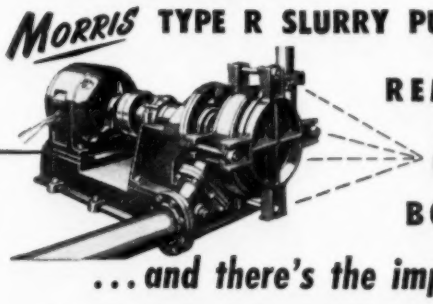
Cuts Pump Maintenance Costs

MORRIS TYPE R SLURRY PUMP



REMOVE 4 BOLTS

...and there's the impeller!

Without disturbing the suction, the discharge piping or the bearings, you can inspect, unclog or remove the impeller on the Morris Type R Slurry Pump. Simply loosen 4 *outside* clamping bolts and pull off the end cover. Cuts maintenance costs and lay-up time to a bare minimum by getting the pump back in service quicker.

The Morris Type R Slurry Pump offers many other features you'll appreciate. Write for specifications, capacities, performance charts and other helpful information. Ask for Bulletin 181.

MORRIS MACHINE WORKS
Baldwinsville, N. Y.
Representatives in Principal Cities

MORRIS *Centrifugal Pumps*

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ULTRASONIC DRILL
cuts holes in metals, ceramics and even tungsten carbide accurately

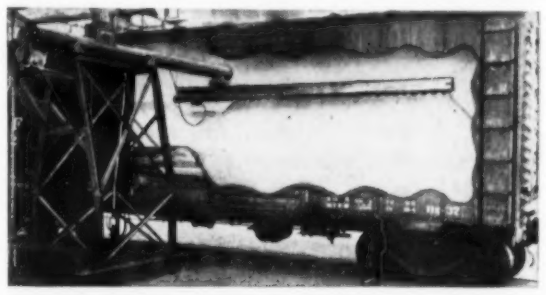
Diatron ultrasonic drill is capable of cutting into the hardest metals and ceramics with a drill head of any desired geometric form. It forcefully drives a fluid abrasive mixture into the piece being worked to cut intricately shaped holes. Drill tip strikes several thousands of times per second. No finishing or polishing are required after drilling. Tool is cool in operation and causes no change in physical, chemical, electrical or metallurgical characteristics.

Type II machine, illustrated, operates at frequency of 25 kilocycles and delivers sonic power output of 500 watts. Slurry tray measures 5 x 7 x 11 in., and 1/8-hp motor driven centrifugal pump operates on 115-v 60-cycle ac. Preformed drills can have any end diameters from 1/8 to 1 in. Unit will machine an unlimited variety of hole shapes to tolerances within 0.0001-in. Machine with larger pedestals and power outputs up to 3000 are available. Made by **Curtiss-Wright Corp.**, Wood-Ridge, N. J.

▲ For more details circle **NED-275 D5** on enclosed inquiry slip ▲

PORTABLE RAIL CAR LOADER
handles segregating bulk mixtures

Designed to handle segregating mixtures of materials such as seed meals, mixed feeds, grain and orange pulp, this portable rail car loader eliminates dust



propagation and differential settling. It will also handle soil sulphur and other minerals shipped in bulk cars where size and gravity segregation is undesirable. Unit consists of articulated screw conveyor system cantilevered from portable supporting frame outside box car. Conveyors carry material through door and distribute it along length of car. Low friction bearing enables conveyor to be jack-knifed for removal from car through the door. Average capacity is 20 tons per hour. Made by **Valley Foundry & Machine Works, Inc.**, Dept. NE, 2718 East Ave., Fresno, Calif.

▲ For more details circle **NED-276 D5** on enclosed inquiry slip ▲

NOW ...a 6" BELT GRINDER for only $165.

Engelberg/Porter-Cable's new, low-cost Abrasive-Belt Grinder, Model 648, supplements other machines to step up production and improve results throughout the plant.

Versatile and economical, Model 648 is used as a clean-up machine alongside millers, shapers, automatics, hacksaws and shears. Invaluable in gear cutting departments because it whisks off burrs and tool marks smoothly and efficiently. This low-cost work saver is also a favorite for polishing, removing stock and breaking sharp edges. Also used to touch up tools for the set-up men, grinding flats, making and repairing jigs and sharpening tools. Ideal in the assembly department for fitting parts.

● **WRITE for free literature and name of nearest distributor.**

THE ENGELBERG HULLER CO., INC.
164 Seneca St., Syracuse, N. Y.

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To MACHINE STAINLESS STEEL AT *Less Cost*

Ask your nearby Carpenter representative for a copy of the new "NOTEBOOK on Machining Stainless Steel." This 116-page book contains much information published for the first time in chapters on:

- TURNING
- DRILLING
- TAPPING
- THREADING
- MILLING
- BROACHING
- REAMING
- FILING & SAWING
- STONING
- LUBRICATION

A *Check Chart* in each section helps you quickly spot troubles and correct them. Call your Carpenter representative for a personal copy of the NOTEBOOK. He will be glad to give copies of the NOTEBOOK to Production and Management Executives. And after you have it, if you want additional copies for the men in your plant, they can be secured at cost. Extra copies are available at 50c apiece to cover cost of printing and mailing.

THE CARPENTER STEEL COMPANY
118 W. Bern St., Reading, Pa.

▲ For more details circle **NED-278 D5** on enclosed inquiry slip ▲

CLIMAX MOLYBDENUM COMPANY, Dept. 18
500 Fifth Avenue, New York 36, N. Y.

Please send me the 208-page handbook "Alloy Steels Pay Off"

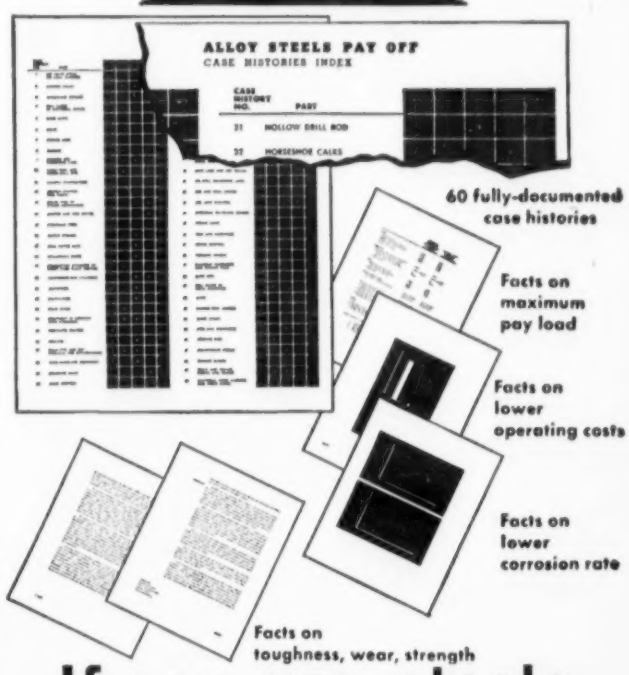
Name _____

Company _____

Title _____

Address _____

MAIL THIS TODAY



If you use steels, here's the handbook you should have

This fact-packed handbook is a must for you if you use steel. Here, in completely documented form, you'll find how the use of alloy steels adds economies, increases service life, offers many other advantages.* Cost-conscious executives will find the full story on these economies of alloy steel in the first section of the handbook. Designers and metallurgists will find the advantages of alloy steels in the 60 case histories. Get your copy today. Climax Molybdenum Company, 500 Fifth Avenue, New York 36, New York.

MS5-13

* Advantages of ALLOY STEELS	
	• longer life
	• greater pay load
	• lower operating costs
	• greater safety
	• less maintenance

CLIMAX MOLYBDENUM

▲ For more details circle **NED-279 D5** on enclosed inquiry slip ▲

MILL-ROSE TWISTED-IN-WIRE BRUSHES

You can order any type of special twisted-in-wire brush from us by merely sending specifications with the part to be cleaned. However, our standard line of 56 brushes may meet your needs. Send for catalog EQ 55.

HIGH PRECISION MILL-ROSE INDUSTRIAL BRUSHES

THE MILL-ROSE CO., 1985 East 59th Street, Cleveland 3, Ohio

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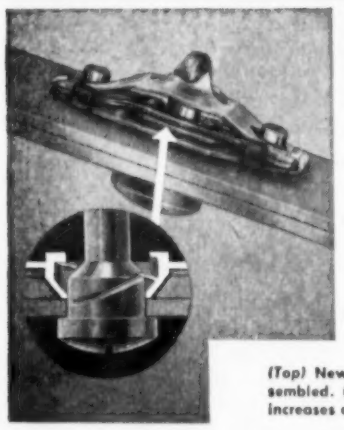


NOW! Shear strength *twice* that of any other fastener!

NEW Lion "Hi-Strength" design fills every need for parts that must be fastened, taken apart, buttoned tight quickly

(Top) New Lion "Hi-Strength" fastener assembled. *(Inset)* Beveled counter sink which increases area over which stress is distributed

Here's a new and better answer to your problem of metal-to-metal fastening where high shear stress and vibration are factors.

It's the Lion "Hi-Strength" fastener, combining speedy quarter-turn opening and closing with a shear strength of 4750 lbs!

This "Hi-Strength" fastener is remarkably strong because shear load is evenly distributed over the area of the fastened parts. The secret lies in the *beveled* counter sink in the sheet and the nut.

In addition to high shear strength, its tensile strength is 3000 lbs. Sheet separation is zero up to 4750 lbs. Misalignment is as much as .125 with high shear qualities. Regardless of the number of times it's opened or closed, there is no wear. It cannot be overtorqued (up to 3750 lbs.). It cannot be fastened incorrectly. It is no larger than a standard No. 5!

To test it yourself, write for a free mounted working sample. Just drop us a line on your company letterhead.

LION FASTENER, INC. 600 Main St., Honeoye Falls, N.Y.
In Canada: A. T. R. Armstrong Co., 50 St. Clair Avenue West, Toronto

▲ For more details circle NED-281 D5 on enclosed inquiry slip ▲

QUICK ACTION ON ANY ORDER

Drill Jig Bushings Made to Ex-Cell-O's Precision Standards

—famous for accuracy and long life. Order from one of the largest suppliers in the world; get prompt shipment from Detroit, New York, Los Angeles, or London Ontario.

Your Buyers and Engineers can save time and money by using the Ex-Cell-O Bushing Catalog—the complete bushing guide. Write for a copy today.

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

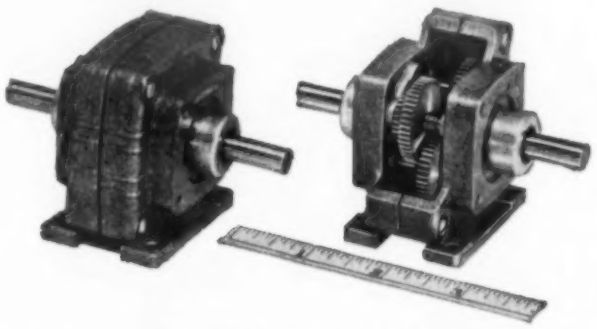
XLO

54-10

▲ For more details circle NED-282 D5 on enclosed inquiry slip ▲

SMALL SPEED REDUCER anti-backlash types are offered

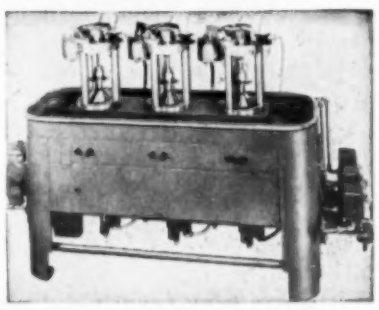
Use of two parallel gear trains that are spring loaded against each other eliminates backlash in series 11 Bantam speed reducers. The torsion spring is wound



to give an anti-backlash torque of 2-lb-in. in either direction, or lower if need be. Reducers are adaptable for flow controls, computers, timers and similar devices. They have antifriction bearings throughout and are available in 600 standard ratios. Made by **Metron Instrument Co.,** 436 Lincoln St., Denver 3, Colo.

▲ For more details circle NED-283 D5 on enclosed inquiry slip ▲

BOTTOM-TYPE TAPPING MACHINE in five 3-spindle models, will tap 3/8 to 6-in. diameter holes



Improvements made in Tapmaster bottom-type tapping machine include relocation of lead-screw to the bottom of tapping head to speed changing of lead screw and nut. Machine is available in five 3-spindle models and will tap hole diameters from 3/8 to 6-in. tap size, with standard stroke to 3 in. To further reduce tap setup time, original stroke limit switch located at base of tapping head has been replaced with a dual-limit switch control. This control is set by means of pointers on a dial calibrated with 0-50 turns in two directions.

A third improvement is an electric brake incorporated in motor drive to stop spindle at top and at bottom of stroke. This eliminates burden formerly applied to motor when reverse field was utilized to halt spindle. Available optionally is a two-speed motor affording normal tapping speed, with back-out speed doubled. Machine can be used to cut external threads on two heads and tap the same product with the third head, employing only one operator. Straight tapping rate runs as high as 1800 pieces per hour. Made by **Prutton Corp.,** 5297 W. 130th St., Cleveland 11, O.

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America's featherweight production champs are breaking production records in plants from coast to coast.

It's FREE for the asking—this brand new catalog containing photographs and descriptions of dozens of different MALL air tools designed to help you boost production and cut costs. MALL air tools provide POWER UNLIMITED shift after shift . . . and at the same time eliminate worker fatigue because of their amazing lightness and compactness. MAIL THE HANDY COUPON BELOW FOR YOUR FREE COPY.

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The MALL man in your area (with his mobile tool warehouse) will be glad to demonstrate the MALL power tools you ask to see. Phone or write the MALL office nearest you.

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7727 South Chicago Ave., Chicago 19, Illinois

RUSH me a free copy of MALL's new Air Tool Catalog No. 72.

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*Company*_____
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MU-166

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Just drill a hole, drive a

SEL-LOK SPRING PIN

These slotted tubular pins eliminate costly tapping, reaming, peening or milling operations. They eliminate losses associated with close tolerances. And they stay put. A full range of diameters and lengths (1/16" x 3/16" to 1/2" x 4 1/2") is stocked by authorized industrial distributors. See your SEL-LOK distributor or write STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

SEL-LOK SPRING PIN DIVISION SPS JENKINTOWN PENNSYLVANIA

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FACTS PROVE

Bendix* Electric Fuel Pump is the outstanding choice for every operating condition!

- Performance-proven
- Longer Life • No Pressure "Droop"
- Dependable Operation at −75°F.
- Improves Low Temperature Starting
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- Eliminates Vapor Lock
- Delivers More Gallons per Hour
- Easy to Install • Easy to Service
- Low Power Requirements
- Economical Operation
- Light Weight • Compact
- Rugged • Tamper-proof

Learn more about this new and improved fuel pump. Write for descriptive folder and specifications.

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ECLIPSE MACHINE DIVISION
ELMIRA, N. Y.

THE NAME MILLIONS TRUST Bendix AVIATION CORPORATION

Bendix* Electric Fuel Pump
Bendix* Folo-Thru Starter Drive Stromberg* Aeroquad Carburetor

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NEW T&B INSULATING BUSHINGS

TOUGH

Bend 'em
Pound 'em
Twist 'em

T&B ENGINEERED

for ½" to 6" Standard Rigid Conduit

These new T & B Insulating Bushings are designed to withstand rough treatment. Made of tough cellulose acetate butyrate, they're the toughest Insulating Bushings available today.

Use T & B's new Insulating Bushing wherever NEC requires protection for cable sheath or wire insulation against damage from burred or unevenly cut conduit . . . or for the ultimate in protection even where not required by code. Send today for a free sample and descriptive literature. T45

THE THOMAS & BETTS CO.
Incorporated
24 Butler Street, Elizabeth 1, New Jersey
Thomas & Betts Ltd., Montreal, P.Q., Canada
MANUFACTURERS OF FINE ELECTRICAL FITTINGS SINCE 1898
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"CB" Series

Completely Packaged
PERECO
Electric
FURNACE

for laboratory and shop uses

2500° F. for normal operation
3000° F. for short periods

Simple to install and easy to operate, this CB-55 (also larger sizes) handles exact laboratory and pilot plant operations, and other heat-treating work requiring close control of extremely flexible heat cycles. Size: 32" d. x 33" w. x 64" h., with loading area 10" d. x 8" w. x 6" h. Uniform heat from 3 silicon carbide elements over and 3 under the chamber. All controls on front panel: automatic temperature controller, input meter, 36-tap auto-transformer with switch interlock, cut-off switch, and safety pilot-light. Wedge-fit counterbalanced door. 230-v., 60 cyc., 1 ph. or 3 ph. Variable control from 11 KW down to 3.5 KW. Atmosphere connections optional.

Write Today for Bulletin

PERECO also makes standard and special furnaces for temperatures from 450°F to 5000°F.

PERENY EQUIPMENT CO.
Dept. G, 893 Chambers Rd., Columbus 12, O.
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Make it WORTHY Of Your Product

As the maker's "signature," your name plate is one thing that can set your product apart from all others. Make it *distinctive*, and let it reflect the quality you offer.

Let us help you create such a "signature." Our skilled craftsmen, long experience and modern equipment insure finest results. Send a rough sketch or blueprint for design suggestion and quotation.

Write now for "Etched or Lithographed Metal Products," with full color examples of name and instruction plates.

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1555 N. SHEFFIELD AVE., CHICAGO 22, ILL., DEPT. U
SUBSIDIARY OF DODGE MANUFACTURING CORPORATION, MISHAWAKA, INDIANA
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DRY FLUID DRIVES
four sizes rated at 3 to 30 hp for industrial power transmission

Industrial drives involving heavy inertia and shock loads can make use of the Flexidyne dry fluid drive. It handles difficult starting and reversing problems, protects against shock and overload and does not slip at normal operating speed. Drive consists of housing and rotor, between which are fine particles of spherical steel shot or "flow charge" which act very much like a fluid.

Thrown outward and compressed by centrifugal force, the flow charge transmits power from the housing to the rotor with zero slippage. Amount of flow charge determines torque capacity. Unit can be set to slip from as low as 20 per cent over full load torque to as high as peak motor torque.

Drives are available for mounting directly on motor shafts and adapted for Dodge Taper-Lock sheaves and as couplings with Taper-Lock bushings for straight line drives. Four sizes available at present have ratings between 3 and 30 hp at 1800 rpm. Made by **Dodge Mfg. Corp.**, 600 S. Union St., Mishawaka, Ind.

▲ For more details circle NED-291 D5 on enclosed inquiry slip ▲

HYDRAULIC BENDER
capacity is three ¾-in. round bars

The web in steel joists used to support floors and roofs in building construction as well as stirrups used for reinforcing concrete columns can be easily bent on this No. 35 hydraulic bender. Capacity is two 13/16-in. or three ¾-in. round bars. Bender drives under full power both right or left and is controlled by two hydraulic foot valves, permitting operator to use both hands for positioning bars. Two adjustable stops for clockwise and counterclockwise bending are supplied. Motor that drives hydraulic pump is rated 5 hp. Head rotates at 13 to 15 rpm and will make a bend to one-half the bar diameter. Made by **Wallace Supplies Mfg. Co.**, Dept. NED, 1300-06 Diversey Pkwy., Chicago 14, Ill.

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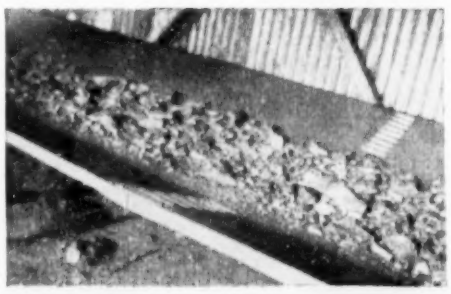
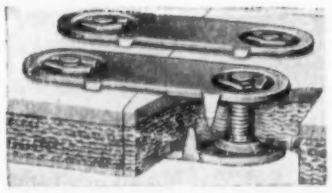
FLEXCO ® BELT FASTENERS and RIP PLATES



FOR HEAVY CONVEYOR AND ELEVATOR BELTS OF ANY WIDTH

★ FLEXCO Fasteners make tight butt joints of great strength and durability.
★ Trough naturally, operate smoothly through take-up pulleys.
★ Distribute pull or tension uniformly.
★ Made of Steel, Monel, Stainless, Everdur. Also Promal top plates.
★ FLEXCO Rip Plates are for bridging soft spots and FLEXCO Fasteners for patching or joining clean straight rips.



Compression Grip distributes strain over whole plate area

Order From Your Supply House. Ask for Bulletin F-100

FLEXIBLE STEEL LACING CO.
4664 Lexington St., Chicago 44, Ill.
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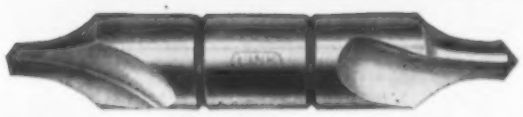
FAR LESS TIP BREAKAGE with "RING SEAT" CENTER DRILLS



USE "RING SEAT"
CENTER DRILLS
IF YOU GRIND BETWEEN CENTERS

The "R" type, curved contour Ring Seat center drills give you a stable, accurate, precision center, quickly restored after heat-treat.

Ring Seat center drills produce a protected center at no extra cost—and carry a built-in discount because they last longer.

Lapping Centers After Heat Treat

is a simple quick operation, done in about one-third the usual time. Lapping with a rotating felt wick removes heat scale and restores a perfect center—at the original place.

A PREMIUM DRILL AT NO EXTRA COST

Ideal for Turning Tapers

LINK INDUSTRIES
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FREE CIRCULAR

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For Best HIGH-SPEED Performance Use . . .

GENERAL
WIDE-BASE PNEUMATICS

They save time • money • labor. Give you cost-saving advantages at all speeds.

General has pioneered every important advance in the field!

You can trust GENERAL'S complete line for the exact design for every purpose.

• More load capacity at low or high speeds
• Cushion equipment and loads reducing breakage and spillage
• Save high cost floors and floor surfaces
• Slow, even wear for long service
• High flotation for easier rolling over soft ground
• Rolls easier, smoother over all surfaces.

Available separately or in assemblies of Tires, Tubes and Wheels. Size O. D. 8" to 35"—200 to 7890 lbs. cap. for low or high speeds.

THE GENERAL TIRE

Rigid

CASTER FORKS

Wide-Base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

Swivel

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The GENERAL TIRE & RUBBER CO. Akron, O.
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MODERN TIME AND COST SAVERS BUILT BY... Standard GRAVITY & POWER CONVEYORS

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Roller Conveyor

Ideal for loading and unloading. Handles commodities up to 60 lbs. — moves bags, cases, hollow bottom, narrow, cleated and irregular packages. Available in 10 ft. and 5 ft. straight sections and 90° and 45° curves. Keep LITEWATE conveyors handy in your storage and shipping rooms — carry them in your trucks. Write for LITEWATE Conveyor Bulletin — address Dept. NED-45.

STANDARD CONVEYOR COMPANY
General Offices: North St. Paul 9, Minn.
Sales and Service in Principal Cities

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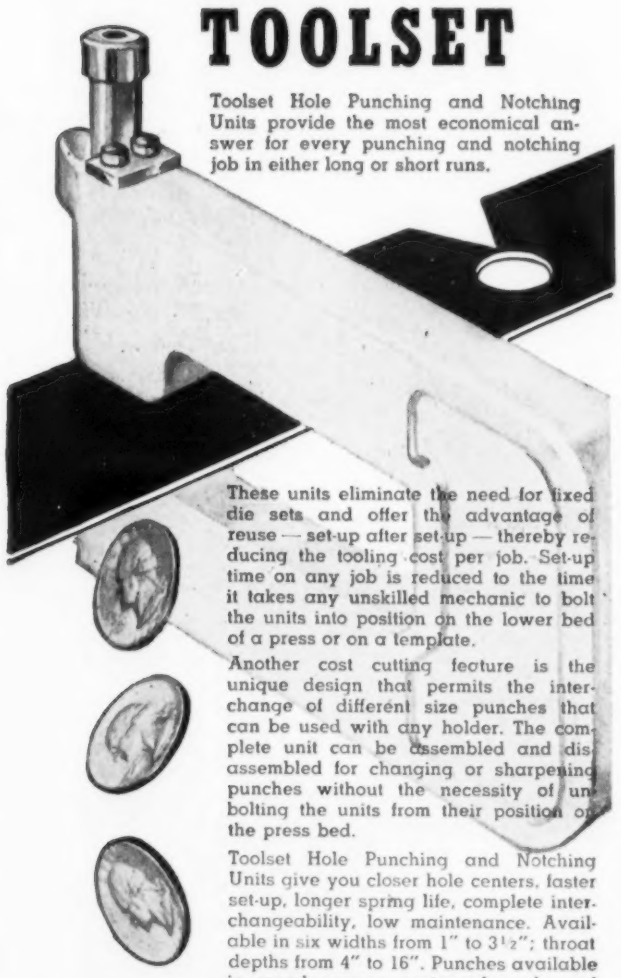
PROFIT with every punch with TOOLSET



Toolset Hole Punching and Notching Units provide the most economical answer for every punching and notching job in either long or short runs.

These units eliminate the need for fixed die sets and offer the advantage of reuse — set-up after set-up — thereby reducing the tooling cost per job. Set-up time on any job is reduced to the time it takes any unskilled mechanic to bolt the units into position on the lower bed of a press or on a template.

Another cost cutting feature is the unique design that permits the interchange of different size punches that can be used with any holder. The complete unit can be assembled and disassembled for changing or sharpening punches without the necessity of unbolting the units from their position on the press bed.

Toolset Hole Punching and Notching Units give you closer hole centers, faster set-up, longer spring life, complete interchangeability, low maintenance. Available in six widths from 1" to 3½"; throat depths from 4" to 16". Punches available in round, square, rectangular, obround or special shapes as required.

TOOLSET
Division of General Riveters Inc.
779 Hertel Ave. Buffalo 7, N. Y.

Start cutting costs NOW — Send coupon for Catalog of complete Toolset Line.

Toolset, Division of General Riveters, Inc.
779 Hertel Ave.
Buffalo 7, N. Y.
Gentlemen:
Please furnish a copy of your Catalog on Hole Punching and Notching Units.
Name _____
Title _____
Firm _____
Address _____
City _____ Zone ____ State _____

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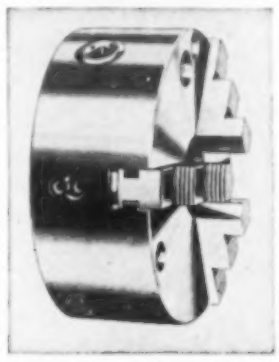
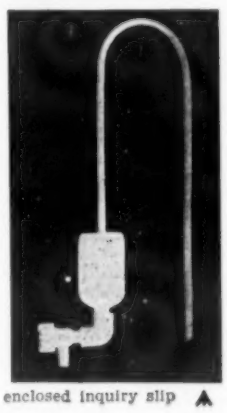
THREE-JAW SCROLL CHUCK
with single-point, fast adjustment



Precise centering of workpiece within 0.0005-in. total indicator reading can be accomplished with the Cent-R-Quik three-jaw universal scroll chuck. Unit incorporates single-point, fast adjustment that will not shift under heaviest of cuts. Any number of duplicate parts can be chucked accurately without making readjustments. There is no movement of chuck body in relation to machine spindle since all adjusting is done internally. Chuck mounts on spindle in conventional manner and is operated by single pinion. Made by **Skinner Chuck Co.,** 112 Edgewood Ave., New Britain, Conn.

▲ For more details circle **NED-298 D5** on enclosed inquiry slip ▲

POLYETHYLENE SYPHON
squeeze of bulb starts operation



Made completely of polyethylene, this syphoning device is furnished with enough tubing to use with drums or carboys. It is soft and simple to use. Bulb is squeezed a few times to start syphon action, then spigot is opened to draw off liquid. Syphon is in primed condition as long as it is in place, and flow is controlled by turning spigot. Made by **Nalge Co.,** 621 S. Goodman St., Rochester 20, N. Y.

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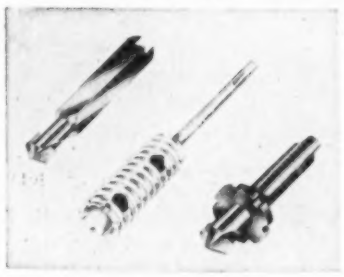
MASONRY DRILL
is core type and carbide tipped



Fast precision drilling of holes in masonry, stone and tile is performed with this Rotrkore core type, spiral-fluted, carbide-tipped masonry drill. Spiral flutes remove dust and prevent friction and binding. Multiple carbide cutters are set deep in the spiral flute and project just enough for efficient cutting without chatter. Tool is used in rotary electric or pneumatic slow-speed drills to cut at speeds up to 6 ipm. Tang-slot starting drills assure accurate hole placement. Made by **Star Expansion Bolt Co.,** Dept. N, 147 Cedar St., New York 6, N. Y.

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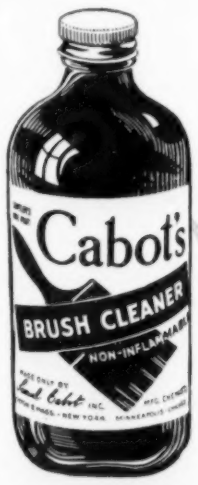
specify...Cabot's



USE **over and over** AGAIN!

Cabot's BRUSH CLEANER

- Cleans hardened brushes thoroughly!
- Won't evaporate! • Non-inflammable!
- Safe for finest bristles!

See for yourself how easy it is to restore your costly paint brushes to useful service.

Samuel Cabot

Write for free sample today.

SAMUEL CABOT INC.
432 Oliver Bldg., Boston 9, Mass.

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compare Hoffman's new 5 h.p. portable for super cleaning at new low cost...

Carries 75 feet of hose for single sweeper operation, two 50-foot lines for two man handling.

The new HOFFCO VAC #35 is really dust hungry. Powerful vacuum for continuous "dry-scour" cleaning on even the heavy dust deposits. Dust container has largest capacity of any portable of similar size—less need for emptying.

Vacuum-powered by the HOFFMAN Multi-stage Blower-Exhauster—industry famous for trouble-free, lifetime operation. Large bag filtering area for thorough separation of fine dusts. Rubber-tired roller-bearing wheels that ride smoothly over rough uneven floors. The HOFFCO VAC #35 turns in its own radius, cleans anywhere, even in the narrowest most congested areas. Compact design incorporates hose rack, electric cord saddle and tool box.

Let a HOFFMAN expert survey your plant and suggest the HOFFMAN unit (5 additional portables or central stationary vacuum systems with 3 to 100 HP capacities) best suited for your operation. Write for Bulletin A-939.

AIR APPLIANCE DIVISION **U. S. HOFFMAN MACHINERY CORP.**
DEPT. N.E.D., 105 FOURTH AVENUE, NEW YORK 3, N. Y.

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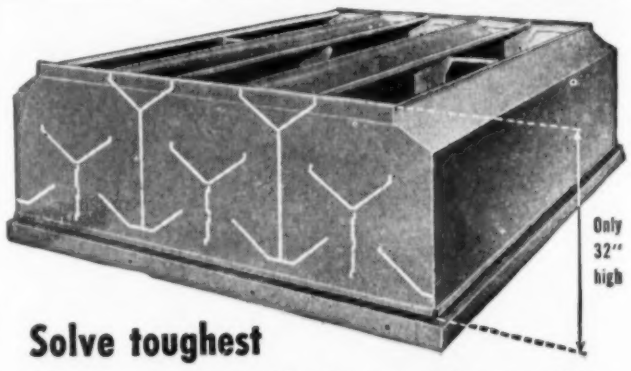

Solve toughest large scale ventilation problems with the low-contour **Airmover**

You can have all the ventilation you want —at economical cost. Airmover has high capacity. Only 32 inches high, built in rectangular units usable on any type roof. Install single units or any multiple, up to full length of roof. You literally can "open your roof to the sky", yet have full weather protection. Write for Bulletin AM-C.

18511 Euclid Avenue, Cleveland 12, Ohio
The Swartwout Co.
Roof Ventilators and Ventilating Louvers
POWER PLANT EQUIPMENT • PROCESS INDUSTRY CONTROLS

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FREE! Fact-filled bulletin tells you all about speed reducers for cooling towers

IDEAL FOR DESIGN, PROCESS AND AIR-CONDITIONING ENGINEERS

Contains illustrations . . . diagrams . . . tables . . . engineering data . . . plus full description of Cleveland Type CU Speed Reducer. Helpful information for engineers who specify or use speed reducers to drive induced draft fans in industries and applications where large volumes of air or process water must be cooled. Send for your free copy today. Ask for Bulletin 135-R. The Cleveland Worm & Gear Company, 3283 East 80th St., Cleveland 4, Ohio.

CLEVELAND WORM GEAR
Speed Reducers

Affiliate: The Farval Corporation, Centralized Systems of Lubrication

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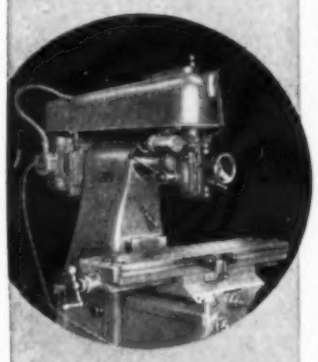
does MORE work... MORE easily

new POWER FEED HEAD U. S. Vertical Miller

Here's the new U. S. Vertical Miller with Power Feed Head—the head into which U. S. has built all the most wanted features without sacrificing traditional U. S. simplicity. Check its infinitely variable feed rate, its 800 pounds of down thrust on the quill, its supplemental hand feeds—it is the milling head that was designed to meet all shop needs.

Add to these the basic advantages of the U. S. Vertical Miller. You can easily see why it's the milling machine that "does more work more easily".



more versatile
Feed infinitely variable from .002" to .008" while in operation
greater capacity
5½" power quill travel; 800 lb. down thrust
more convenient
Supplemental hand feeds
increased rigidity
Enclosed hard chrome plated quill with internal lock

Write for descriptive folder

THE U·S·Burke MACHINE TOOL DIVISION
2 Bretherton Rd., Cincinnati 27, Ohio

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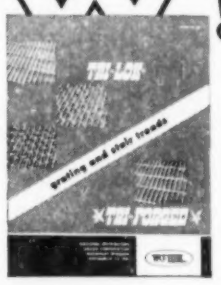
NEW! NEW! NEW!

Up-to-date facts on new Tri-Forged welded and Tri-Lok interlocked grating and stair treads



Here's vital information for ready reference on the new Tri-Forged steel grating and stair treads, plus latest information on Tri-Lok interlocked products. This fact-filled catalog gives you installation specifications, types of grating and stair treads available, and safe load tables. Be sure to write for your copy today.

For your free copy write department D-2504

DRAVO CORPORATION
Pittsburgh 22, Penna.
National Distributors

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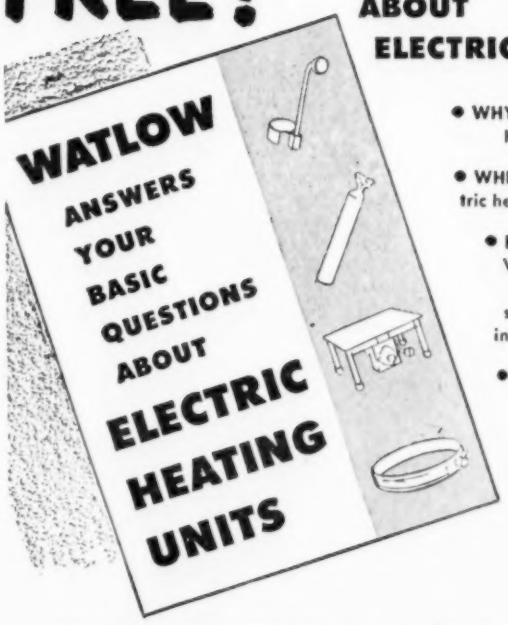
FREE! VALUABLE FACTS ABOUT ELECTRIC HEAT



- WHY is electric heat better?
- WHEN can electric heat be used?
- HOW can Watlow help you in your special heating problems?
- WHERE are Watlow heating units being used today?

A helpful guide published to assist you in the proper use of electric heating units (immersion, cartridge, band and strip) WRITE for your free copy today

WATLOW ELECTRIC MFG. CO.
1374 Ferguson Avenue, St Louis, Mo.

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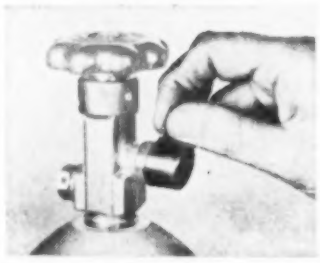
CARBIDE-TIPPED DRILLS
feature high speed steel bodies

Extra large solid carbide ends and high speed hardened steel bodies are featured by improved line of carbide tipped drills. Holes can be drilled in hardened pieces, die sections or molds with these drills without annealing or distorting finished surfaces. Type HSC is offered in 27 sizes ranging from 3/32 to ½-in. with a round shank. Type H, with hexagonal shaped body, is provided in sizes from ⅜ to ¾-in. Drills can be obtained either in compact plastic kit containing five most popular sizes, or on split order. Made by **Super Tool Co.,** 21640 Hoover Rd., Detroit 13, Mich.

▲ For more details circle NED-308 D5 on enclosed inquiry slip ▲

PLASTIC VALVE CAP
seals outlet, protects its threads



Rubber-like vinyl plastic caps are designed to protect gas cylinder valve outlets during shipping, handling and storage. Cap safeguards threads and keeps dirt and moisture out of outlet. They will not shake off or jar loose and can be readily removed by pulling back on tab. Since caps are of nonshredding plastic, danger of residue or fibrous material being left in outlets after removal is eliminated. Sizes for 0.825 and 0.903-in. OD threaded outlets are available. Made by **S. S. White Dental Mfg. Co.,** Plastics Div., Dept. 30, 10 E. 40th St., New York 16, N. Y.

▲ For more details circle NED-309 D5 on enclosed inquiry slip ▲

OVERLOAD COUPLING
excessive torque disconnects drive

Tork-O-Stat overload protective coupling, used between any drive shaft and a driven shaft, provides instant protection against overloads and sudden jams when its torque rating is exceeded. When overload is removed, coupling will re-engage and normal drive is automatically resumed. Self-contained, close-coupled unit is easily installed, requires no lubrication and measures 4¼ in. diameter by 1 5/16-in. thick. Models are available with torque ratings of 10, 20, 40 and 60 lb-in., with equivalent horsepower ratings dependent entirely upon speeds used. Made by **Machine Accessories,** Dept. M228, 6 E. Franklin Ave., Minneapolis 4, Minn.

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New!

NOW... A FLUX TO GIVE YOU PERFECT SOLDERED JOINTS EVERY TIME... WITHOUT STEELWOOL CLEANING!

Amco Research offers—for the first time anywhere—these exclusive advantages of amazing, new C-FLUX paste:

1. Eliminates pre-cleaning of metal surfaces.
2. Cleans and fluxes in one easy operation.
3. Enables the solder to form a *perfect* bond every time.
4. Complete capillary action induces 100% fluxing for smooth solder flow.

Order C-FLUX by name from your supplier, or write TODAY for complete information about this sensational new soldering flux.

American Solder and Flux Co.
19th & Willard Streets, Philadelphia 40, Pa.
BAldwin 6-1800

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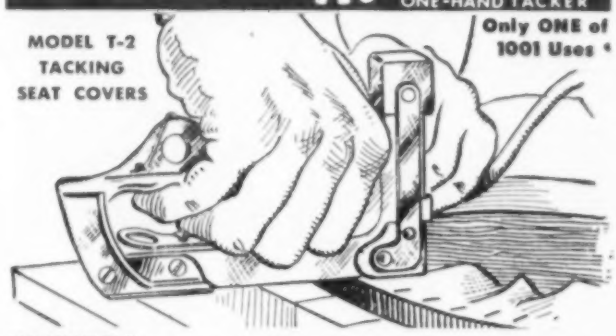
YOU CAN DO IT AT LESS COST with HANSEN ONE-HAND TACKER



FASTER! With its zip-zip compound leverage action, Hansen saves time in all types of tacking and fastening. Fast, easy one-hand operation. Tacks fast as you grip. Leaves one hand free.

BETTER! Balanced design insures accurate, precision driving. Powerful action drives each staple firmly and neatly in place for improved quality and increased holding power. It is adaptable to a wide variety of uses — screens, insulation, TV wires, etc.

AT LESS COST! (MODEL T-3-4 HANSEN TACKER)
Hansen saves *time, steps,* and *materials* — operates faster — saves back-tracking — ready for instant, continual use.

36 DIFFERENT MODELS
80 STAPLE SIZES

A.L. HANSEN MFG. CO. Request Booklet ...today
5164 RAVENSWOOD AVENUE • CHICAGO 40, ILLINOIS

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Keep "Down Time" down and Production up with–

Industrial Tires Job-Fitted by Goodyear

YOUR plant engineers know the best way to keep rolling stock rolling is to insist on—and get—tires designed just for your kind of job. When you choose Goodyear you never have to compromise. You pick the tire that's best for you from America's most complete line of industrials – tires job-fitted by size, by tread design, by rubber compound. Call your Goodyear dealer for tires matched to your equipment and plant conditions – then watch your tire savings add up.

All Service Tread Xtra Cushion
Smooth-Solid
All-Weather Tread
Rib All-Weather Pneumatic (Tubeless or Conventional)
Semi-Pneumatic Cushion

FREE Technical Engineering Advice and Service
To help you solve tough Industrial Tire problems, Goodyear maintains a staff of fully qualified technical experts. For their free recommendations, write Goodyear, Industrial Tire Division, Akron 16, Ohio.

USE THE RIGHT TIRE FOR THE JOB—USE
GOODYEAR INDUSTRIAL TIRES
All-Service, All-Weather, Xtra Cushion—T.M.'s
The Goodyear Tire & Rubber Company, Akron, Ohio

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OVER 400 SEALANTS TO

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SEAL OUT DIRT, WATER, RUST, AIR...

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CONSTRUCTION . . seal sewer joints and paving joints, waterproof underground concrete . . also protective coatings, caulking compounds, barrier papers.

RAILROADS . . . insulate, soundproof and weatherproof railway cars.

To protect the quality of YOUR product, write us about your sealing problem.

SEALANTS • COATINGS • ADHESIVES

PRESSTITE ENGINEERING COMPANY

3742 Chouteau Ave. St. Louis 10, Mo.

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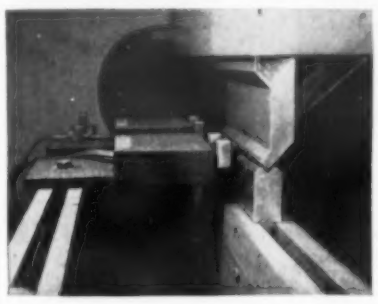
MAGNETIC BACK GAGE reduces finger and hand injuries by assuming operator's duties

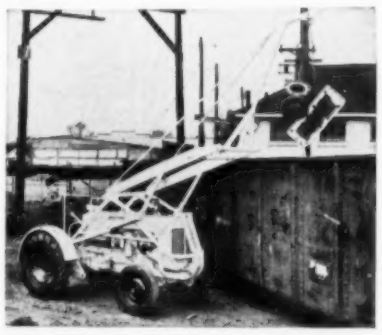


Press brake accidents resulting in finger and hand injuries are practically eliminated through use of the electro - magnetic back gage which holds material while the ram is in motion, thereby enabling the operator to keep his hands clear. He does not have to "feel" whether the sheet is against the back stop as it is magnetically drawn to it, positioning the work correctly at all times. Unit permits one man to handle large sheets easily and safely and brings about an increase in production.

Multiple punching and various other press brake operations can be performed and the gage will also permit forming several pieces simultaneously. Magnetic gage control supplies current to the magnets at top of stroke, but shuts it off when the ram engages the metal to allow full bending action. Gage can be adapted for use on power presses, rolls and other equipment. Made by **American Actuator Corp.**, 219A E. 44th St., New York 17, N. Y.

▲ For more details circle NED-315 D5 on enclosed inquiry slip ▲

AIR COMPRESSOR-TRACTOR can be equipped with wide range of materials handling attachments



Compressed air power can be made available in hard-to-get-at places with the Tractair, a combination air compressor and 35-hp wheeled tractor. Air output has been increased from 105 to 125 cfm. When equipped with air tool and other attachments, the unit can perform a wide variety of operations. Econotrol varies the engine speed to match air demand, thereby extending engine life. It also warms up the cold engine at idle.

Power plant is a Le Roi D226 engine combined in a single block with a balanced two-cylinder compressor. Tractair has five travelling speeds, with a maximum speed of 17 mph. Attachments available include Mobildrill, highway patch drill, multiple tamper, winch, backhoe, front end loader, backfill blade, utility boom and utility platform. Photo shows use as a crane. Made by **Westinghouse Air Brake Co.**, Le Roi Div., 1708 S. 68th St., Milwaukee 14, Wis.

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LERMER PLASTIC CONTAINER Help You Make Satisfied Customers

Package your products in Lermer Plastic durable, handsome containers. They are shatterproof, 75% lighter than glass, available clear or opaque in many colors, can be printed or decorated and are available with metal or plastic closures. Write for complete catalog information and samples. If possible, send along products for particular suggestions.

LERMER PLASTICS, INC.

Pioneers and Specialists in Plastic Containers

514 South Ave., Garwood, New Jersey

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CUT BAR STOCK up to 5/8" Diameter

Accurately, Instantly, Easily with **DI-ACRO* ROD PARTER**

The DI-ACRO Rod Parter with its shearing-breaking action allows most bar stock to be cut without burr and distortion. Cutting heads accommodate eleven different round stock sizes. Also special heads for cutting square, and other shaped bars.

DI-ACRO POWER ROD PARTER

Instantaneous cutting action. Motor driven flywheel, other moving parts housed in welded steel cabinet.

*pronounced Die-ack-ro

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di-acro PRECISION METALWORKING MACHINES

O'NEIL-IRWIN MANUFACTURING CO.
354 8th Avenue, Lake City, Minnesota

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Evans King-Size 10-ft. Steel Tape STANDS UP STRAIGHT for UPRIGHT MEASUREMENTS

Those long upright measurements are easy and accurate with this new EVANS King-Size 10-ft. White-Tape. The 33% wider blade (full ¾") stays straight up without bending or buckling. You get a *free* belt clip and Tenite utility case with every tape. Sliding end hook for inside or outside measuring and . . .

it's marked so you don't have to figure! no other tape is marked this Evans way.

This Edge—marked in feet and inches with foot markings at every inch.

This Edge—marked in inches from 1" to 120"

Whichever way you work, in inches or feet and inches, you read *instantly* without having to stop and figure.

The EVANS King-Size White-Tape Is the Top 10-ft. Tape value at only $2.39. Purchase from your supplier.

another **EVANS** value—

THE ONLY 12-FOOT POCKET WHITE-TAPE

"Standard blade ½" wide"

This L-O-N-G-E-R Pocket White-Tape only $1.89

Purchase from your supplier.

Now, a pocket steel tape that measures a full 12 feet — eliminates the inconvenience and inaccuracy of adding two measurements as you do with shorter tapes. Exclusive EVANS double markings (same as King-Size above). Chrome plated case is *no bigger than cases for shorter tapes.* Self-adjusting sliding hook for 100% accurate inside or outside measurements. Each tape packed in FREE transparent Tenite utility case. **Free Sample Tape Available If your distributor does not carry these EVANS Tapes, have your purchasing agent write direct to the factory giving the name of his distributor and requesting a free sample tape. Specify whether 12 ft. L-O-N-G or King Size Tape is wanted.**

Evans & CO.

400 Trumbull Street, Elizabeth, N. J., U. S. A.

Makers of Evans "Long Tapes"—25-50-75-100 ft. and Evans 6-ft. Folding Rules

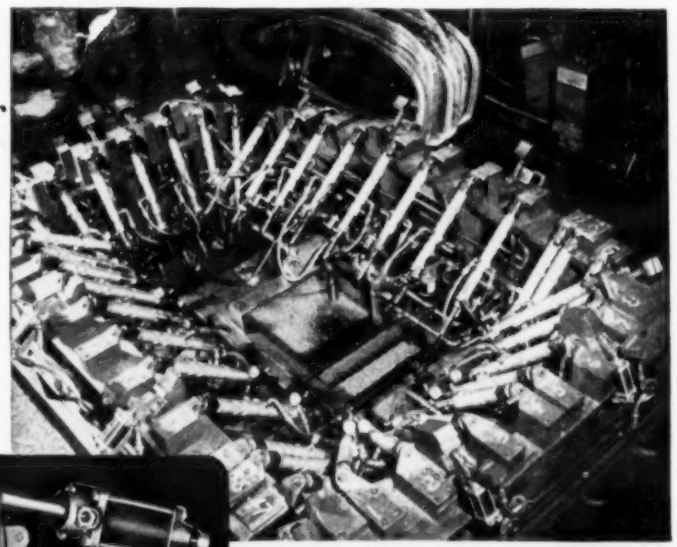
67 JOBS AN HOUR

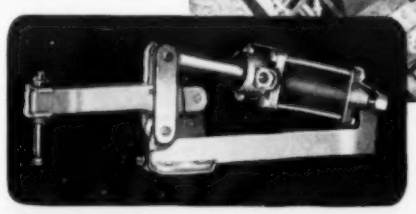
Lift a sedan roof panel onto a fixture. Clamp it tightly—in one operation! Drill 47 holes simultaneously into the roof edges. Unclamp. Remove panel and reload.

There's the production sequence of what could easily become a bottleneck at one automotive company. A fixture incorporating two unusual tools does the job. LAPEER AIR-OPERATED CLAMPS grab the panel rigidly, release upon demand. In the meantime, a battery of Keller Airfeedrills does the actual drilling in from 5 to 10 seconds. Two men handle 67 panels each hour even though most of their time is spent in handling.

Speed—accuracy—sureness—that's the Lapeer story.

You, too, can hold tight to tough jobs. It will pay to investigate Lapeer today.





◀ MODEL AO-400

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KNU-VISE PRODUCTS **LAPEER MANUFACTURING CO.**

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Send for this FREE catalog.

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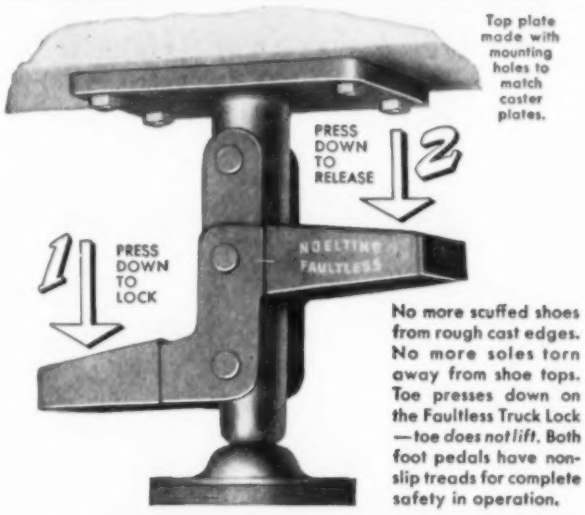
NOELTING Faultless ALL-STEEL TRUCK LOCK WITH 2 PUSH-PEDALS FOR SAFETY!



No more scuffed shoes from rough cast edges. No more soles torn away from shoe tops. Toe presses down on the Faultless Truck Lock —toe *does not lift*. Both foot pedals have non-slip treads for complete safety in operation.

Write for literature and specifications

FAULTLESS CASTER CORPORATION
Dept. NE, Evansville 7, Indiana
Branches in Principal Cities—Canada Factory: Stratford, Ont.

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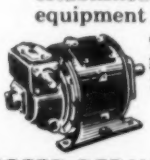
SPEED REDUCER–GEAR
manufacturers for leading O. E. M.'s

Quality, craftsmanship and precision design established Abart as first choice with leading equipment manufacturers throughout the country. Abart speed reducers and gears can give *you* improved performance. Get the facts★ now.



SPEED REDUCERS
—75 types and sizes . . . fractional to 168 hp.—ratios to 10,000-1.

GEARS
—any material . . . cut to your specs in pitches from 64 D.P. to 5/7 D.P.—no stocks: spur, bevel, worm, worm wheels, helical and spiral, etc.

★ *Pocket-sized, data-packed Abart Catalog —FREE on request.*

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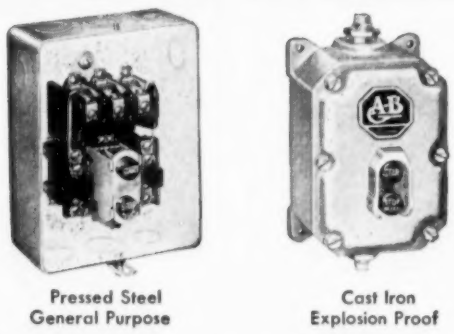

Pressed Steel General Purpose — Cast Iron Explosion Proof

MANUAL ACROSS-THE-LINE-STARTERS
up to 5 HP, 220 v; 7½ HP, 440-550 v.

The Sign of QUALITY Motor Control

Bulletin 609 manual starters give dependable overload protection. The contacts are double break, silver alloy that never need cleaning, dressing, or filing. You can install a Bulletin 609 manual starter and forget it. Available in various types of enclosures. Send for Bulletin 609.

Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.
In Canada—Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

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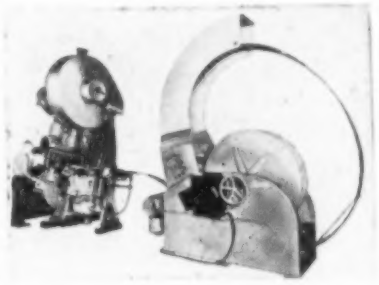
CRADLE & STRAIGHTENER
for coil stock, saves space by directing loop over the coil

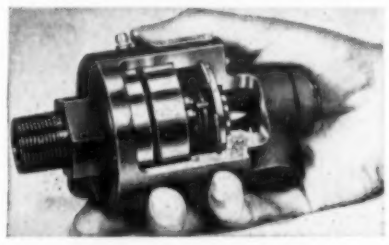


Up to 72 sq ft of floor space can be saved in press rooms with each installation of this Sesco combination cradle and straightener. Loop of stock is directed over the coil by means of upright stock guide and under the coil by means of internal stock guide. Lengthy loop between cradle and feeding mechanism is eliminated. Coil is carried on two smooth, large-diameter, powered rollers. Width-adjustable rotating side plates hold coil in place, providing alignment with press.

Built-in straightener will handle all stock up to 3/16-in. thickness. Except for adjustable straightening rolls, each set of rolls is power driven. Straightener consists of two sets of pinch rolls and five straightening rolls. A 4:1 adjustable ratio drive motor provides wide range of operating speeds. Stock flow is further controlled by simple loop control arm which starts and stops motor automatically. Made by **Special Equipment & Sales Co.**, Dept. C, 3949 E. Nine Mile Rd., Hazel Park, Mich.

▲ For more details circle **NED-323 D5** on enclosed inquiry slip ▲

ROTATING UNION
for water, steam service to 300° F on high speed rotating shafts, drums



Compact rotating unions for water and steam service to 300° F are intended for cooling or heating high speed rotating shafts, drums and cylinders. The ¾-in. union illustrated is double-purpose in that all component parts are alike for both ½ and ¾-in. service, with exception of the rotors. Union can also be changed over from through operation to entrance and return connection on the same side.

Alternate rotors for model 250 are offered with ½-in. left or right hand pipe threads, ¾-in. right or left hand threads and 1-in.-14 N.F. right or left hand machine threads. A 1-in.-14 N. F. right hand pilot type rotor is offered for applications where close concentricity is required. Model 450 is available with 1¼ and 1½ right or left hand pipe threads. Snap ring assembly facilitates quick repair in the field. Made by **Deublin Co.**, Dept. A, 1155 Waukegan Rd., Glenview, Ill.

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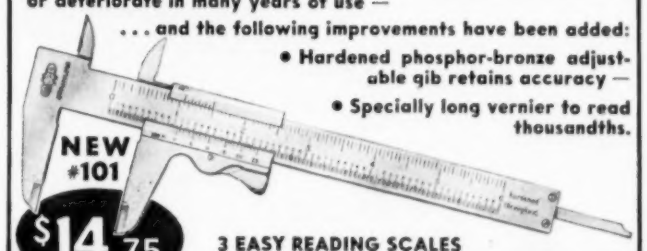
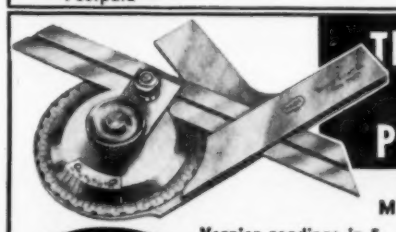
The Genuine MAUSER VERNIER CALIPER
NOW MADE OF STAINLESS STEEL THROUGHOUT

The fine finish will not tarnish or deteriorate in many years of use —
. . . and the following improvements have been added:
• Hardened phosphor-bronze adjustable gib retains accuracy —
• Specially long vernier to read thousandths.



NEW #101
$14.75 Postpaid
3 EASY READING SCALES
1/1000" - 1/128" - 1/10 mm in back



The New MAUSER BEVEL PROTRACTOR
For Layout and Measuring Angles

$20.00 With 6" Blade

Vernier readings in 5 minutes of arc. The dial is graduated in degrees for the full circle of 360°.

Request Illustrated Folder—code: GIOZE—showing complete line of MAUSER Toolmakers Calipers, Height Gages, Tool Stands, etc. . .

GEORGE SCHERR CO., Inc.
COMPLETE LINE OF PRECISION INSTRUMENTS
200 ND LAFAYETTE STREET • NEW YORK 12, N.Y.

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LOAD FROM GROUND QUICKLY
—and on the level

Trucks and trailers are loaded and unloaded—without manual lifting or pushing, without tilting or breakage—with Globe Loading Lifts. Handling costs are reduced, damage to goods and safety hazards eliminated.

Easily installed at low initial cost, inside or out. Platform raises to height of 58", lowers level to floor. Sturdy power cylinder operated by air-oil unit or Globe Oil Pump. Push-button control if desired. Immediate shipment.

Write for complete data. Globe Hoist Company, East Mermaid Lane at Queen Street, Philadelphia 18, Penna.

GLOBE® LOADING LIFT
PLANTS: DES MOINES—PHILADELPHIA—LONG BEACH, CAL.

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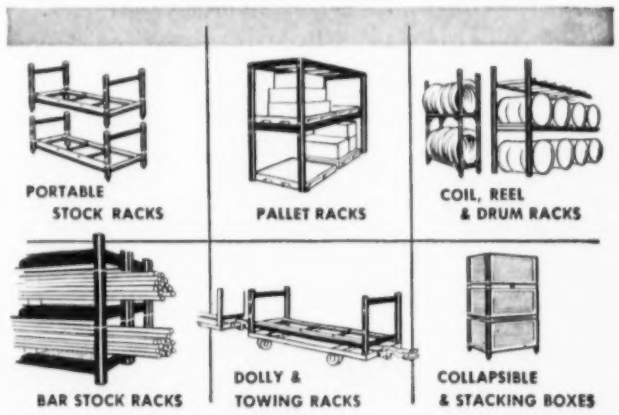
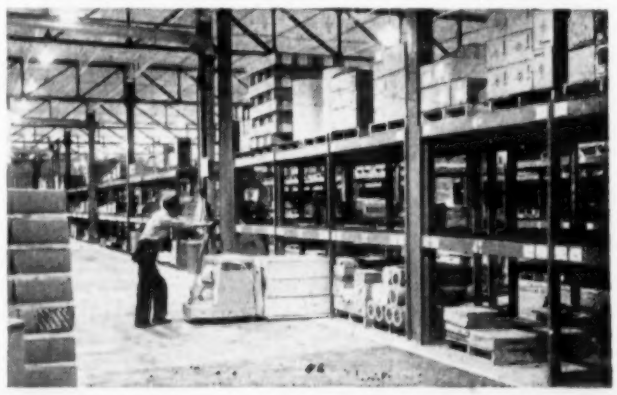
You Can stack ANYTHING on **E.M.I.** Racks

cut time and handling costs keep your materials
well stacked!

Equipment Manufacturing storage racks that stack are fabricated of strong, square tubular steel and are adjustable to fit any space or unit load in your plant or warehouse. Special racks designed to your specifications. Field Engineering Service on any installation. Before you decide on a new warehouse, additional storage space or the purchase of stacking equipment, write for our catalog. You save money, space and time with E. M. I. racks.



E.M.I. Pallet Racks are installed at the efficient American Locomotive Company Warehouse in St. Louis, Missouri.



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EQUIPMENT MFG. INC.
21566 HOOVER ROAD • DETROIT 5, MICHIGAN

☐ Materials Handling Equipment
☐ Stacking Racks for Industry

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QUICK RELIEF

FOR OVERLOADED SWITCHBOARDS IN OFFICES AND PLANTS *PLUS* EMERGENCY SERVICE

WHEELER SOUND POWERED *Electric* TELEPHONES

Surprising how quickly and easily you can "free" your switchboard or interoffice system by connecting constantly-called locations in office or plant with Wheeler phones. You get clear, static-free conversation . . . wide flexibility, with bell, visual, or special call signals . . . choice of many types, including executive desk sets. Yet NO BATTERIES . . . NO POWER CONNECTIONS . . . NO MAINTENANCE! "DOUBLE" as dependable EMERGENCY systems in case of power failure. Low in first and last cost. Write for full story.

the WHEELER INSULATED WIRE COMPANY, INC.
Division of The Sperry Corp., 1108 East Aurora St., Waterbury 20, Conn.
In Canada: Sperry Gyroscope, Ottawa Ltd., Ottawa
SWH55A

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AMES

...the preferred Dial Indicators

Over 16,000,000 cycles without wear or loss of accuracy . . . how many more will they complete?

Several Ames Model 282 Long Range Dial Indicators *with plain bearings* are currently giving an amazing demonstration of performance and endurance under test conditions. After more than 16,000,000 cycles each, at 240 strokes per minute, 9 hours a day—they still have their original accuracy!

The reasons for this outstanding record? Simply high quality materials, simple basic design, rugged construction . . . and expert craftsmanship.

If you would like to have our recommendations on your measurement problem, send blueprints and specifications. And ask for your free copy of our catalog on Ames micrometer dial indicators and gauges.

Representatives in principal cities. B. C. AMES CO. 38 Ames Street Waltham 54, Mass.
Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

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SHAFT-MOUNTED SPEED-REDUCTION DRIVES SAVE TIME—GIVE PRECISE SPEED YOU NEED.

If you operate any slow-speed process you can save installation and maintenance time, valuable floor space and money, with the American Shaft-King Speed-Reduction Drive. It mounts directly on standard shaft extensions, needs no supports or costly engineering to install, remove or relocate.

Shaft-King is 98% efficient, produces the exact slow speed you want from 154 RPM down, handles requirements through 40 HP.

Two ratios—13 to 1 and 20 to 1—meet practically every need. Available immediately from your local distributor. Write for catalog. There's no obligation.

The American Pulley Company
4294 Wissahickon Ave., Phila. 29, Pa.
Please send new Shaft-King Catalog

Name_____
Title_____
Firm_____
Address_____
City_____ Zone___ State____

At the Profit End of the Machine

Power Transmission by AMERICAN PULLEY COMPANY

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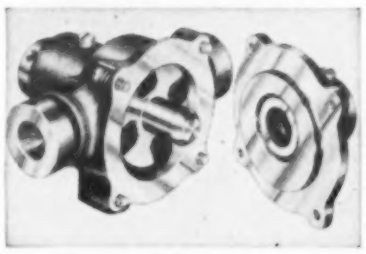
VARIABLE CAVITY PUMP maintains constant flow volume



Despite fluctuations in city water pressure, this variable cavity pump maintains a constant volume of flow. When internal pressure reaches a predetermined point, a spring-loaded end plate moves outward, increasing the length of the pump cavity. Pressures can be varied from 3 or 4 psi up to 75 psi. When pressures drop, end plate is automatically forced in by springs. Pump parts are available with either ⅜-in. internal pipe thread or external garden hose thread. The hollow shaft pump will slip on a ½-in. motor shaft. End plate serves as a relief valve without losing the reversible rotation feature. Made by **Hypro Engineering, Inc.**, Dept. NED, 700 39th Ave. N.E., Minneapolis 21, Minn.

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PLASTIC STRAPS for supporting wires & cables

Noncorrosive straps for fastening and supporting all types of open wires, cables and cords are made of tough, pliable, lightweight polyethylene. Straps are unaffected by heat, cold, moisture, salt air and gaseous fumes. They will not age, rot, rust or corrode. Strap edges are thick and rounded for protection against short circuits under vibration, strain or wind. Mounting holes are sized to hold screws or nails while driving. Straps are made in black and ivory colors by **Holub Industries, Inc.**, 411 DeKalb Ave., Sycamore, Ill.

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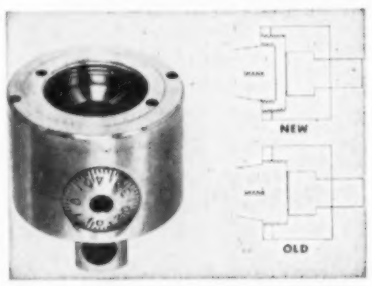
OFFSET BORING HEADS tool block permanently preloaded



Major change made in No. 6 and 7 micrometer offset boring heads provides for permanent preloading of tool block. In new designs 6-B and 7-B, cup type backplate is screwed into head at factory, applying proper pressure on tool block. It is locked by locking ring. Shank turns into threaded backplate and can be changed at any time without disturbing load on block. Heads only can be ordered. Made by **Flynn Mfg. Co.**, 135 Flowerdale Ave., Ferndale 20, Mich.

▲ For more details circle NED-333 D5 on enclosed inquiry slip ▲

JUNIOR *Utility* OVENS

- Low cost
- Easy to operate
- Minimum maintenance

4 MODELS to choose from

Model	Internal dimensions	Temperature range
CA 250	22" w by 20" d by 23" h	up to 250°F
CA 550	20" w by 17" d by 21" h	100° to 550°F
CA 650	20" w by 17" d by 21" h	100° to 650°F
CA 1000	18" w by 15" d by 19" h	100° to 1000°F

Here is a new line (4 models, temperature ranges up to 1000°F) that incorporates every possible advantage of experienced oven design. Use the Jr. Utility Oven for economical manufacturing, product control, sample testing, etc. External dim. 24" x 24" x 34" high. Handsome gray hammertone finish. Write for complete data on new, advanced features. Some territories open for representatives, distributors and resale outlets.

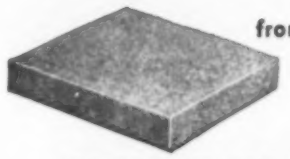
NEW ENGLAND OVEN & FURNACE COMPANY INC. ORANGE, CONN.

NEW ENGLAND OVEN & FURNACE CO.
POST ROAD, ORANGE, CONN.

▲ For more details circle NED-334 D5 on enclosed inquiry slip ▲

Armstrong's

VIBRACORK CUSHIONS VIBRATION



from Hydraulic Presses, Pumps, Compressors, and many other types of Machinery and Equipment

. . . ACTUALLY FLOATS THE LOAD ON MILLIONS OF AIR CELLS!

Vibracork is a resilient machinery isolation cork plate made of pure cork granules, compressed and baked under pressure.

Convenient to stock — Standard sheets, 12" x 36"; Standard density, 2" and 3" thick; Heavy density, 1", 2" and 3" thick.

Easy to use — Can be cut to size on the job with an ordinary hand saw.

Loading range — Standard density, 1500# to 4000# per. sq. ft.; Heavy density, 5700# to 8500# per. sq. ft.

Availability — Immediate delivery. Korfund is sole distributor for the United States.

For installation data and further information, ask for Bulletin VC-500.

THE KORFUND CO., INC.

KORFUND VIBRATION CONTROL — SPRINGS — RUBBER — CORK

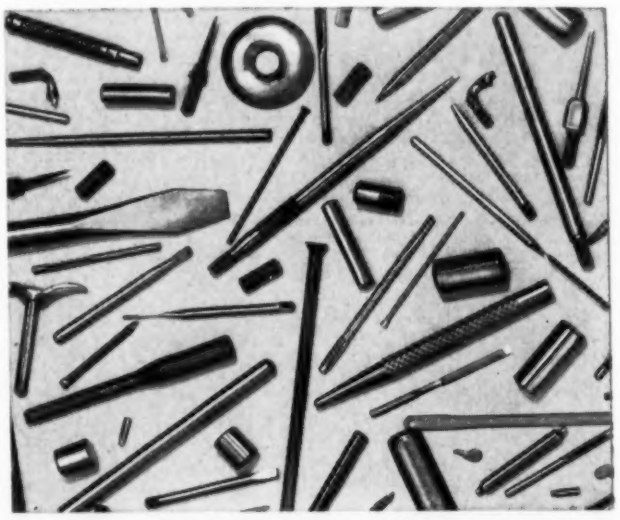
48-35P Thirty Second Place • Long Island City 1, N. Y.

▲ For more details circle NED-335 D5 on enclosed inquiry slip ▲

One hundred or a million . . .

TORRINGTON

small precision parts are exactly alike



Precision and uniformity go hand in hand at Torrington—regardless of the size of the order.

Automatic equipment of special design, and the know-how gained in almost 90 years of precision metalworking enable us to produce your small precision parts to the highest standards of uniformity.

Let us produce a trial order for you. Send your blueprint or a sample part for our prompt quotation. Ask for our Condensed Catalog. It shows many of the parts we can make *faster, better and for less* than you can yourself.

THE TORRINGTON COMPANY
Specialties Division
808 Field Street, Torrington, Conn.

TORRINGTON *SPECIAL* METAL PARTS

Makers of Torrington Needle Bearings

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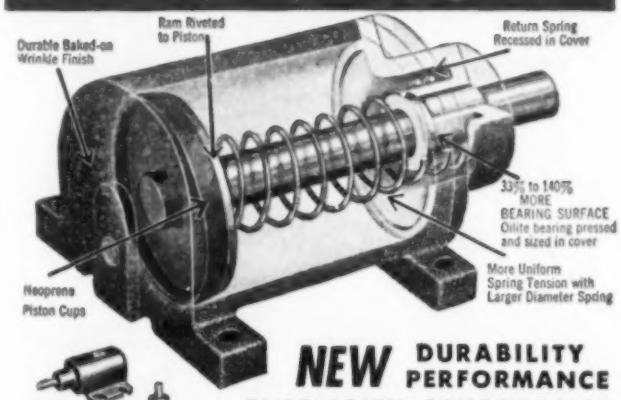
Before You Buy ANY AIR CYLINDER-*Study this!*



Some of the 26 newly perfected single-acting Air Clamps.

NEW DURABILITY PERFORMANCE SIMPLICITY • APPEARANCE

See the construction of this newly perfected single-acting Mead ®Air Clamp cylinder. Compare with others—you'll switch to Mead! Now all perfected single-acting Air Clamps use less air—to further cut your costs feeding, holding, ejecting, finished pieces. They are in stock at your nearest Mead Man for immediate delivery.

MEAD *Air-Clamp*® *Air Cylinder

Write to Factory or Nearest Mead Representative for Bulletin No. NA45

MEAD SPECIALTIES CO., Dept. NA45, 4114 N. Knox, Chicago 41

▲ For more details circle **NED-337 D5** on enclosed inquiry slip ▲

NEW pocket size thickness gauge

ELCOMETER

Measures Non-Magnetic Coatings with ± 5% ± .0001" Accuracy

ELCOMETER measures thickness of porcelain enamel, paints, platings, foils, glass, paper, plastics, and other non-magnetic coatings quickly and accurately. Gauges flat or curved surfaces and hard-to-get-at spots easily. Needle locking device assures correct reading every time. Complete with tough leather case containing inner pocket for test strips. Weighs only 6 oz. Completely self-contained. Retail price: $68.00, F. O. B. Cleveland.

WRITE FOR ILLUSTRATED FOLDER

FERRO

FERRO CORPORATION

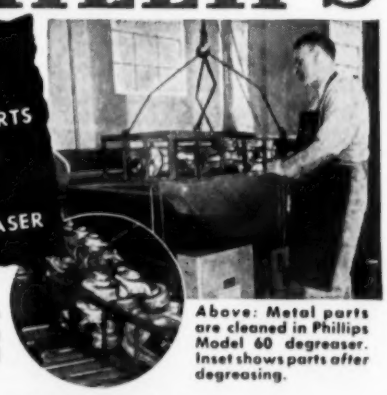
4181 East 56th St. • Cleveland 5, Ohio

▲ For more details circle **NED-338 D5** on enclosed inquiry slip ▲

ENGINEERED SERVICE

PHILLIPS

POWER TOOL MANUFACTURER CLEANS METAL PARTS BETTER, FASTER WITH A PHILLIPS DEGREASER



Skilsaw reports improved cleaning before painting and assembly.

Above: Metal parts are cleaned in Phillips Model 60 degreaser. Inset shows parts *after* degreasing.

HERE is another case illustrating the high cleaning efficiency of Phillips degreasers. Skilsaw, Inc., Chicago, uses a Phillips Model 60 electric batch-type machine to clean both aluminum and iron castings, steel stampings, shafts and screw machine parts before painting and assembly of the finished product.

Skilsaw reports that the Phillips unit cleans their parts better, as well as 3 to 4 times faster than their former method.

Check into the time and money you can save with Phillips Vapor Degreasing. Our representative will be glad to discuss your parts cleaning problem with you.

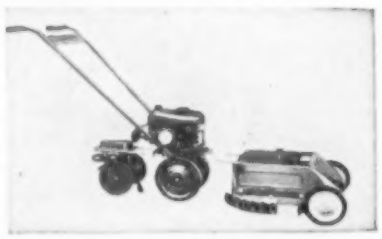
SEND FOR YOUR FREE COPY OF NEW ILLUSTRATED DEGREASER BULLETIN!

Phillips 3463 Touhy Avenue • Chicago 45, Illinois

In Canada: Mfd. by Williams Tool Corp., Brantford, Ont.

▲ For more details circle **NED-339 D5** on enclosed inquiry slip ▲

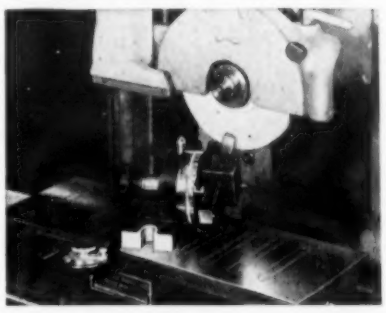
SMALL ROTARY CULTIVATOR for industrial plant landscaping



Usable by institutions, industrial and commercial plants for landscaping and grounds maintenance, Hummin'bird Roto-Hoe is easy to operate. It utilizes horizontally rotating teeth to cultivate and can be equipped with 20-in. rotary lawn mower for grass cutting. Easy to maneuver around shrubs, trees and in flower beds, machine is powered by 2-hp gasoline engine. List price is $105, and lawn mower attachment sells for $32.50. Made by **Roto-Hoe & Sprayer Co.,** Dept. NE, Newbury, O.

▲ For more details circle **NED-340 D5** on enclosed inquiry slip ▲

ANGLE DRESSER & TOOL HOLDER vernier affords accurate settings



In addition to permitting accurate trueing of grinding wheels, this G-2 tool also serves as a precision tool holder. As an angle dresser, the vernier scale permits it to be set to within 5 minutes of 1 degree. Any tool up to 1-in. square can be held at any desired angle for grinding clearance, chip breaker or flat form. Made by **Rothfuss Tool Co.,** 20 Pratt Circle, Edgewood Station, Providence, R. I.

▲ For more details circle **NED-341 D5** on enclosed inquiry slip ▲

BLACK GRANITE ANGLE PLATE for inspection and assembly uses

Convenient means for clamping tools and fixtures is provided by line of black granite angle plates. They are also suitable for precision inspection and assembly operations. Plates are nonglaring, rustproof, will not warp or deflect, are inert to temperature changes and are accurate. Standard size combinations range from 4 x 4 x 4 in. to 12 x 12 x 12 in. They are furnished in leatherette covered felt-lined plywood cases. Made by **Collins Microflat Co.,** Dept. 101, 2326 E. Eighth St., Los Angeles 21, Calif.

▲ For more details circle **NED-342 D5** on enclosed inquiry slip ▲

PAYS FOR ITSELF QUICKLY IN LABOR SAVING

SABIN

One-Man

BARREL TRUCK

LOOK AROUND! How many of your employees are used to handle heavily loaded barrels and drums? You can reduce the number to ONE and save plenty by using a Sabin Barrel Truck.

OPERATION IS EASY—you run truck up to container, hook on at top and pull back on handle to pick up load. *Third Wheel Feature* assures better balance and added safety.

WRITE FOR BULLETIN NO. 48-A

THE SABIN MACHINE CO.

6536 Carnegie Ave., Cleveland 3, Ohio

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Here's a Complete Veelos V-Belt Inventory in the O, A, B & C widths!

Put an end to endless space and inventory problems. Four reels of Veelos adjustable v-belt replace up to 316 different sizes of endless belts . . . and take up a space of only 16 inches square.

WRITE FOR A FREE COPY . . . of the Veelos Data Book. It's packed with valuable engineering data complete with illustrations. Send for your copy today.

VEELOS THE BALANCED LINK V-BELT

MANHEIM MANUFACTURING AND BELTING CO.

650 Manbel St., Manheim, Pa.

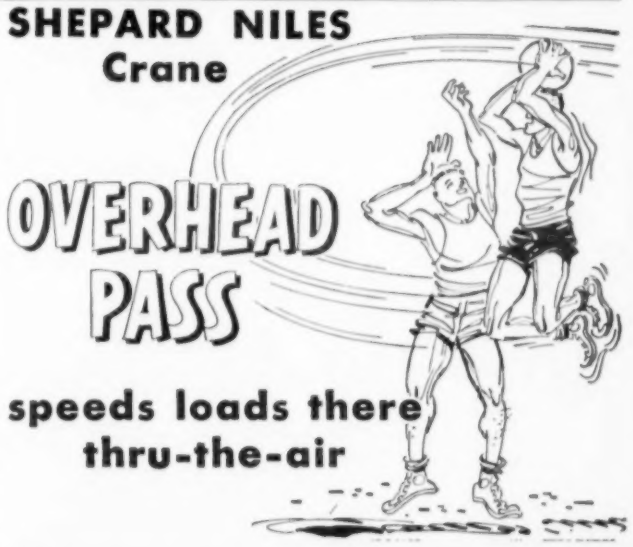
Adjustable To Any Length • Adaptable To Any Drive

▲ For more details circle **NED-344 D5** on enclosed inquiry slip ▲

SHEPARD NILES Crane

OVERHEAD PASS

speeds loads there thru-the-air



Put your handling where it belongs

. . . overhead where it's out of the way! By using a Shepard Niles Crane, you free floor space for production and storage . . . move loads quickly and safely, at low cost.

Choose from the complete line of cranes which Shepard Niles offers for light, medium or heavy service. Available for constant or intermittent duty in slow, medium and high speeds . . . operated from pulpit, cab or floor. Featuring component parts designed and built by Shepard Niles expressly for crane service.

Write for latest Crane Bulletin . . . and arrange to have a Shepard Niles representative call at your convenience. He'll assist you in selecting the crane that meets your load-handling requirements.

America's Most Complete Line of Cranes and Hoists since 1903

CRANES Overhead: Top Running, Inner Running, Under Running, Floor or Cab Operated.

HOISTS Operated from Cab, Floor or Pulpit.

SHEPARD NILES CRANE AND HOIST CORPORATION

1856 Schuyler Ave., Montour Falls, N.Y.

▲ For more details circle **NED-345 D5** on enclosed inquiry slip ▲

For further information, write— 135 CANAL STREET

CLARK BROS BOLT CO. MILLDALE, CONN.

For more details circle NED-346 D5 on enclosed inquiry slip

Free! THIS BRAND NEW BOOKLET ABOUT

automatic speed control

HOW TO APPLY THE ADVANTAGES OF VARIABLE SPEED TO AUTOMATION

Typical applications of Varitrol pneumatic control regulating the speed of Varidrives in response to a signal from such variables as temperature, humidity, pressure, speed, liquid level, weight and tension are dramatically pictured and explained in this full-color booklet. This educational booklet, edited by variable speed engineers, is your guide to a method of greater production of more goods and services at lower cost and astounding man-hour savings. Write today for your complimentary copy.

U. S. VARIDRIVE WITH VARITROL®

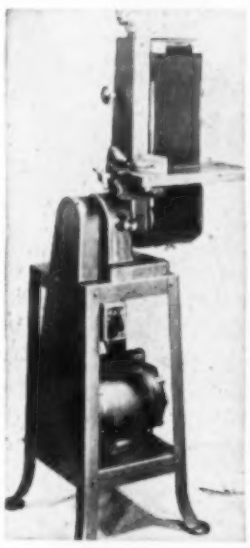
FOR VARIABLE SPEED AUTOMATION

REQUEST FOR VARITROL BULLETIN

U. S. ELECTRICAL MOTORS Inc. NED-4
P. O. Box 2058, Los Angeles 54, Calif. or Milford, Conn.
☐ Send Varitrol Automation Booklet No. 1882
☐ Send U. S. Varidrive Booklet No. 1797
Name
Company
Address
City Zone State

For more details circle NED-347 D5 on enclosed inquiry slip

ABRASIVE BELT GRINDER adjusts vertically or horizontally for free-hand precision finishing

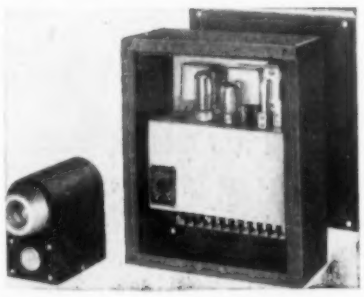


Principal applications of model 648 abrasive belt grinder include free-hand flat surfacing, squaring, rounding, deburring, chamfering and polishing metals, wood, glass and plastics. It adjusts to either vertical or horizontal position, or to any intervening angle in only 5 seconds. The 6-in. belt is backed by 6⅜ x 14⅛-in. platen and will handle fairly large as well as small pieces. In horizontal position, long pieces overhanging the ends of the machine can be worked. Work table is adjustable to 45 degrees from belt, 20 degrees toward belt and is slotted for an angle gage calibrated for any angle up to 90 degrees.

Drive units include 1-hp, 60-cycle motors in single phase at 110/220 v, or in triple phase at 220/440 v. A 1725-rpm motor provides belt speeds of 2800 and 4000 surface fpm. Made by **Engelberg Huller Co.,** 831 W. Fayette St., Syracuse, N. Y.

For more details circle NED-348 D5 on enclosed inquiry slip

REGISTRATION CONTROL maintains accuracy of high speed automatic machines



Precise accuracy in automatic machine operations on paper, textiles, plastics, tin, steel or other sheet materials can be maintained by the type 23LF3 model 1006 registration control. Operating continuously over high and low speed ranges, it responds instantly to the appearance of a mark printed on material moving past it at speeds from 15 to over 500 fpm.

Abrupt change in light intensity caused by passage of the mark actuates the control relay which will trigger speed correction devices, keeping the material in synchronization with machine operation. Response is to impulses as short as 0.0005-second. Several scanner models are available to accommodate reflectance characteristics of most materials. Minimum speed of controlled material is 3 in. per second and maximum depends upon size of registration mark. Made by **Electronics Corp. of America,** Photoswitch Div., Dept. P136, 77 Broadway, Cambridge 42, Mass.

For more details circle NED-349 D5 on enclosed inquiry slip

A Sound Investment FOR PROTECTION OF PERSONNEL!

WELDING CURTAINS

Workers and passers-by are protected from harmful rays given off by welding operations. Also serve as a protective shield against flying chips and scale. Made of flameproof canvas (Underwriter's Approved Treatment) or asbestos, complete with eyelets for suspending on rod or pipe support.

WRITE FOR BULLETIN NO. 43

IPCO Safety Equipment for all Industries

INDUSTRIAL PRODUCTS COMPANY

2807 N. Fourth Street • Philadelphia 33, Pa.

For more details circle NED-350 D5 on enclosed inquiry slip

NEW! Davohm Series 850 Metal Film Resistor

Perfect compromise between precision wire wound- and composition types

This new **precision** film type resistor is hermetically sealed, highly stable, and has a temperature coefficient independent of resistance value. The Davohm Series 850 is available in 1/2, 1 and 2 watt sizes; to tolerances of ±1.0%, ±0.5%, ±0.25%; and, to any desired value.

Compare these performance figures!

	MIL-R-10509A ALLOWABLE CHANGE	Series 850 TYPICAL CHANGE
Temperature Cycling	1.0%	0.02%
Low Temperature Exposure	3.0%	0.04%
Short Time Overload	0.5%	0.02%
Effect of Soldering	0.5%	0.02%
Moisture Resistance	5.0%	0.08%
Voltage Coefficient	0.002%	0.00%
Load-Life (per 1000 hours)	1.0%	0.20%
Temperature Coefficient (PPM/°C)	±500	+370 ±20

Write for complete data.

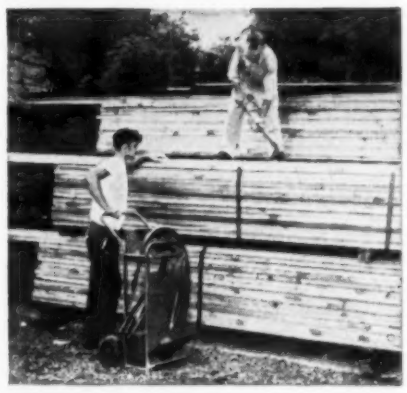
Available Through: THE DAVEN ELECTRONIC SALES CORP.
Associated with:
THE DAVEN CO. 199 Central Ave. Newark 4, N. J.

World's largest manufacturer of attenuators

For more details circle NED-351 D5 on enclosed inquiry slip

Get UNBIASED strapping recommendations from Brainard®

Brainard supplies *both* steel strapping and strapping tape . . . Brainard salesmen can recommend the method that fits your exact needs. The Brainard strapping service can reduce your handling costs...help deliver your products in better condition.



Brainard SHARONSTEEL
STEEL DIVISION
SHARON STEEL CORPORATION

Write for FREE CATALOG on Brainard products and tools, Brainard Steel Division, Dept. Y-4 Griswold Street, Warren, Ohio.

For more details circle NED-352 D5 on enclosed inquiry slip

for SPEED ECONOMY & QUALITY LESTO

GUSTO ORBITAL SANDER

High efficiency on flat or curved surfaces . . . vertical or horizontal . . . even tight spots right to edges. No belts or gears. Reliable, durable sander for wood, metal, plastics, plaster, paint, etc. Largest sanding pad of any hand sander. Exclusive safety hard rubber handle withstands shocks up to 1000 volts .

LESTO Electric HAND SAW

Swiss watch precision in a heavy-duty portable hand-saw! That's the secret of LESTO cutting speed and accuracy. 2300 strokes per minute cut so fine sanding is unnecessary. A true all-in-one saw: rip, scroll, band, jig, cross-cut, coping, keyhole—cuts inside holes without a starting hole . . . cuts 2" wood beams . . . soft metals, plastics, cement sheet, etc

LESTO Electric SHEARS

For all sheet-metal work up to 16 gauge. Compact design, handy shape. Perfect for hard-to-reach places. Cutting speed 5 ft./min. Weight 3¼ lbs. Larger model cuts up to 12 gauge. Weight 6½ lbs.

Write for Literature
Sold and Serviced in Principal Cities Throughout U.S.A.
VICTOR J. KRIEG, Inc.
Exclusive Importer
611 Broadway, New York 12, N. Y.
GRamercy 7-5757

For more details circle NED-353 D5 on enclosed inquiry slip

BUILDS A 5 MIL PAINT FILM IN ONLY 2 COATS

CUTS PAINT COSTS UP TO 30%

Thickness and film density is what counts in a paint film. And in TYGON "ATD" Hot Spray Paint you get both—plus *real adhesion.* And, of course, you get all the corrosion-resistance for which Tygon Paint is famous.

Write for all the details today!

PLASTICS AND SYNTHETICS DIVISION

U. S. STONEWARE

Since 1865 • Akron 9, Ohio

66E

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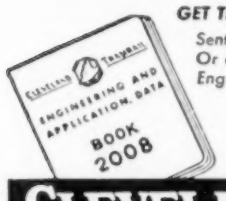
TRANSFER CRANES *Speed* WAREHOUSE HANDLING

60,000 to 70,000 lbs. of steel are handled into this warehouse daily and like amounts shipped out.

Cleveland Tramrail transfer cranes make it easy for one man to place long unwieldy pipes and bar stock into storage at any height in any part of the building. This enables obtaining maximum storage capacity and makes for orderliness, which is an important factor in securing high operating efficiency.



GET THIS BOOK

Sent free on request. Or ask for Tramrail Engineer to give ideas.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6644 East 285th St., Wickliffe, O.

CLEVELAND TRAMRAIL

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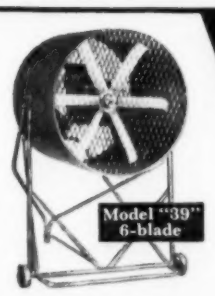


NEW *Aerovent* Mancooler FANS

for spot cooling of men and machines
drying • exhausting • general ventilating

Beat heat and production lags this summer with Aerovent Portable Mancoolers. Pedestal, cradle and wheeled models—all adjustable for 180° directional air discharge. Heavy-duty welded construction. Sizes 24" to 48" for capacities to 40,000 C. F. M.

other models for every air-moving requirement

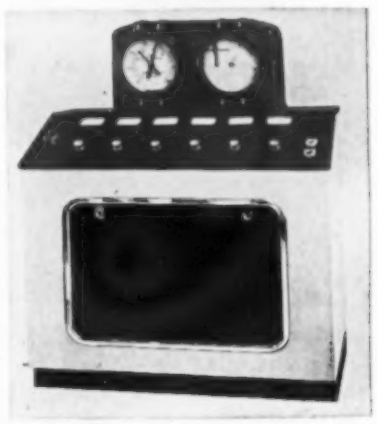
All Aerovent Fans are rated in accordance with the Standard Test Code and U.S.D.C. Comm. Std. CS178-51.

Ask for free folder M-50!

Aerovent Fan Company, Inc.
Ash and Blake Streets *Piqua, Ohio*

▲ For more details circle NED-356 D5 on enclosed inquiry slip ▲

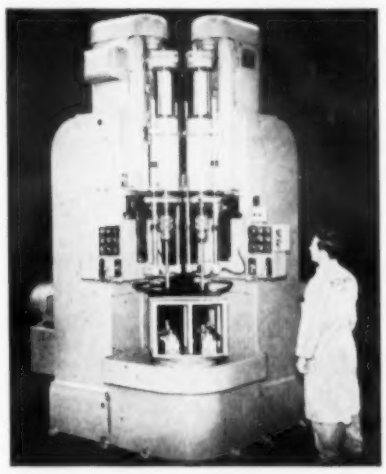
FILTER OPERATING TABLES easily installed and maintained



Conforming to all specifications for standard filter operating procedures and adaptable to special requirements, line of filter operating tables is built to withstand moist atmospheres. Panel containing the valve control knobs and valve position indicator dials is tilted to allow the operator good visibility from a normal standing position. Wash water pump starter control station is located on the panel. Valve position indicators are electrically operated on 6 v and hermetically sealed. Tables are shipped assembled and are easily installed and maintained. Top is drilled to meet specifications of customer's filter gage. Made by **Filtration Equipment Corp.,** Dept. N, 271 Hollenbeck St., Rochester 3, N. Y.

▲ For more details circle NED-357 D5 on enclosed inquiry slip ▲

DOUBLE-SPINDLE HONE features automatic sizing control and four-station indexing fixture



Model 730-2 double-spindle vertical Hydrohoner incorporates two basic units, with separate columns for each spindle. It holds tolerances within 0.0005-in. for size and 0.0002 for roundness and taper. It is equipped with Microdial automatic abrasive feedout and stone-wear compensation and Microsize automatic sizing control. Coolant start and stop, and time cycle are also automatic. Reciprocation is hydraulically actuated, and speed is infinitely variable from 0 to 60 surface fpm.

Automatic rotary index table controls are interlocked with machine controls. Four-station fixture makes it possible to hone two parts simultaneously while two stations are being unloaded and loaded. Same procedure can be used with one-station indexing to hone the same bore progressively, or two different bores in the same part. Made by **Micromatic Hone Corp.,** 8102 Schoolcraft Ave., Detroit 4, Mich.

▲ For more details circle NED-358 D5 on enclosed inquiry slip ▲

NEW ELECTRIC VIBRATOR

Quiet!

A compact, powerful unit designed to speed the flow of stubborn materials through all types of bins, hoppers and chutes.

Obtainable in all voltage, phase and cycle requirements.

Write today for complete literature.

Bin Stuck Lately?

THE CLEVELAND VIBRATOR CO.

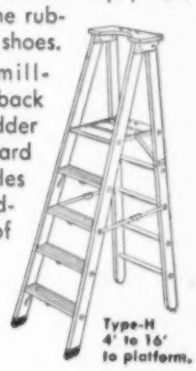
2744 Clinton Avenue • Cleveland 13, Ohio

▲ For more details circle NED-359 D5 on enclosed inquiry slip ▲

Dayton safety ladders ***approved and labeled by Underwriters' Laboratories***

Daytons are built of selected, tested, kiln-dried Sitka Spruce and are designed in accordance with "American Standards Association Safety Code". Type-A features large working platform (23" x 16") and steel handrails for added safety. Standard equipment includes neoprene rubber tread safety shoes.

Type-H has millwright (rung) back construction. Ladder folds flat. Standard equipment includes zinc-plated hardware, pinch-proof spreaders, neoprene rubber tread safety shoes.



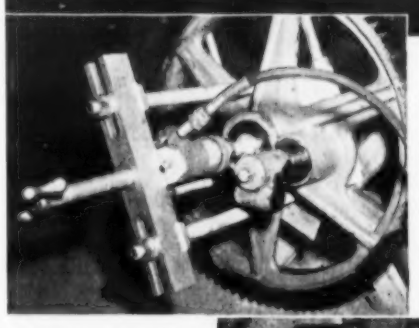
For FREE literature write Dept. E

Dayton safety ladder co.

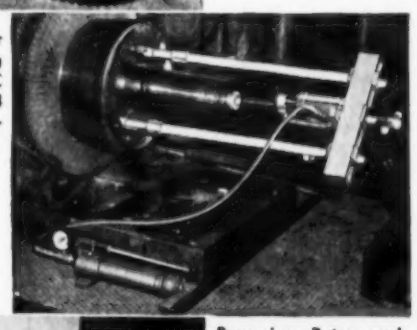
2339 Gilbert Ave., Cincinnati, Ohio
In Canada—SAFETY SUPPLY CO., TORONTO

▲ For more details circle NED-360 D5 on enclosed inquiry slip ▲

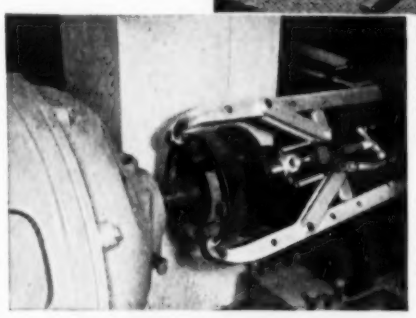
YOU ARE INVITED



TO SEND US YOUR PULLING PROBLEMS



Removing Drive Gear on Paper Shearing Machine with OTC Hydraulic Ram and Bearing Pulling Attachment.



Removing Rotor and Armature from a Motor Generator Shaft with an OTC 50 Ton Hydraulic Ram and Push-Puller.

Pulling Flexible Coupler from 50 HP Motor with OTC Hydraulic Ram and Grip-O-Matic Puller.

Three Typical Jobs (above) on which the OTC HYDRAULIC RAM saved hours and dollars on costly "Down time."

No matter how large or how small, we can help you with your pulling problems. For at OTC we manufacture the most complete and most versatile line of pulling tools available—from precision small hand-sized mechanical pullers on up to giant, power packed 100 Ton Hydraulic units.

OTC Hydraulic pullers may be used detached as shown above or with OTC presses to push, pull, bend or spread—to pull and install bearings, sheaves, outer races, pulleys, sleeves, shafts or gears. Let us help you select the unit which best fits your needs.

If you have a pulling problem, count on OTC specialists for a solution. Contact us for prompt consultation on any pulling problem.

WRITE FOR FREE BOOKLET ON HYDRAULIC PULLERS

OTC OWATONNA TOOL CO.

436 CEDAR ST., OWATONNA, MINN.

▲ For more details circle NED-361 D5 on enclosed inquiry slip ▲

CLEAN WITH STEAM

THIS EASY WAY

VAPOR
UPGRADER JUNIOR
HYDRAULIC STEAM CLEANER

Faster and better steam cleaning at a low, low price! Vapor Upgrader Junior develops up to 140 p.s.i. pressure, produces steam in 70 seconds. Cuts labor costs. Lightweight, portable on easy-rolling wheels. Used indoors or out. See for yourself what "Junior" can do!

ONLY **$379** COMPLETE F.O.B. FACTORY

Dissolves and flushes away all kinds of dirt, grease, and grime. Cleans air filters, motors, tractors, machinery, rolling stock, buildings, and nearly everything else—easily and quickly.

Send for NEW Bulletin 594

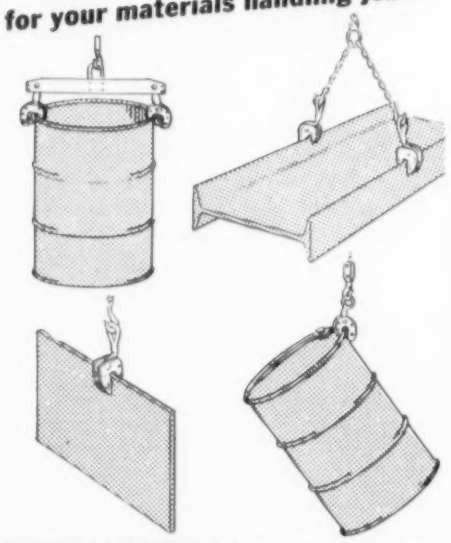
VAPOR HEATING CORPORATION
80 E. Jackson Blvd., Chicago 4, Ill.
In Canada: Vapor Car Heating Co. of Canada, Ltd., 65 Dalhousie St., Montreal 3

▲ For more details circle **NED-362 D5** on enclosed inquiry slip ▲

Patented Volz Clamp. Sizes to lift ½ to 6 tons.

The Heavier the Load, the Tighter the Grip!

Safe, efficient lifting devices for your materials handling jobs!



SEND FOR FREE INFORMATION. Get complete specifications on Merrill Bros.' *Volz* clamps and lifting devices. Handle sheets, plates, beams, drums, discs. Sizes, rated capacities, safety factors, weights, jaw openings, prices—we'll send you all the facts. Use coupon or magazine reply card.

MB
Fine Forgings Since 1866

WRITE FOR **FREE** LITERATURE TODAY

Merrill Bros., 56-13 Arnold Ave.
Maspeth, L. I., N. Y.

Gentlemen: Please send me FREE illustrated material describing Merrill clamps & lifting devices.

My name_____ Title_____

Company_____

City_____ Zone____ State_____

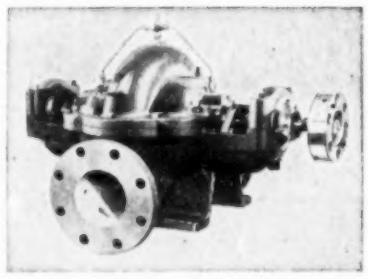
▲ For more details circle **NED-363 D5** on enclosed inquiry slip ▲

PRINTED "WRITE-ON" LABELS
adhere to practically any surface

Combining printed and write-on surface, Printed Combination Labelon is offered in rolls of various lengths and widths imprinted to users' specifications. Printing and writing on the tape are actually beneath the surface of a transparent plastic and are protected from smudging as well as from dirt, dust, oil, water and most chemicals. Only pressure by writing instrument is required to write on tape. Any dry, blunt point such as pen, pencil or stylus can be used. Borders in wide range of colors can be supplied. Made by **Labelon Tape Co.,** Dept. OS, 450 Atlantic Ave., Rochester 9, N. Y.

▲ For more details circle **NED-364 D5** on enclosed inquiry slip ▲

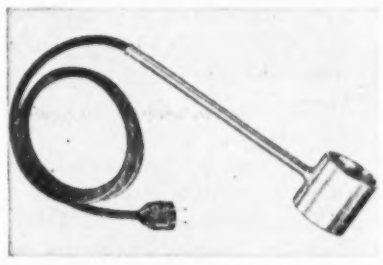
GENERAL-PURPOSE PUMP
also suitable for air conditioning



Offered in five sizes ranging from 3 x 2½ in., 1750 rpm at 150-ft head to 6 x 6 in. at 100-ft head, type KS double-suction centrifugal pumps are designed for air conditioning and general-purpose applications. It has horizontally-split cast iron casing, a bronze double-suction impeller, sealed lubricated ball bearings and deep but easily accessible stuffing boxes. Made by **Allis-Chalmers Mfg. Co.,** 918 S. 70th St., Milwaukee 1, Wis.

▲ For more details circle **NED-365 D5** on enclosed inquiry slip ▲

IMMERSION WATER HEATER
sealed for shockless operation



Heating coils of the Super Shokless immersion type electric water heater are double-sealed in a welded copper jacket so that no water can touch the 1000-w heating element. Supplied with 5-ft heavy duty cord for plugging into any 110 v ac-dc outlet, heater boils 1 pint of water in 2½ minutes. It can also be used for heating oil, chemicals and other liquids. Made by **Kneisley Electric Co.,** Dept. 255NED, 2501-09 La-Grange St., Toledo 3, O.

▲ For more details circle **NED-366 D5** on enclosed inquiry slip ▲

JACO LOW COST AUTOMATIC

STOCK REEL
COSTS NO MORE THAN STANDARD STOCK REELS

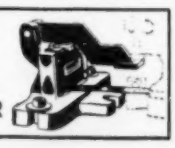
POWERED BY THE NATURAL SPRING OF UNCOILING STOCK

3 SIZES — ALL WILL TAKE 6" WIDE STOCK.

24" diameter $85.00
30" diameter $89.00
36" diameter $95.00

Guaranteed — money back if not 100% satisfied

New LOW prices on the JACO 3-inch and 6-inch SCRAP CHOPPER



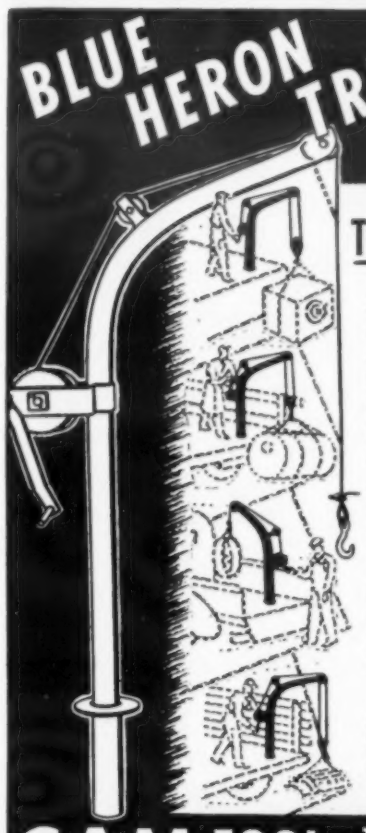
WRITE FOR FULL DETAILS TODAY!

Dealer Inquiries Invited

JACO DEVICES, INC.
95 High Street • Hingham, Mass.

▲ For more details circle **NED-367 D5** on enclosed inquiry slip ▲

BLUE HERON TRUCK CRANE SAVES



Time Money Labor

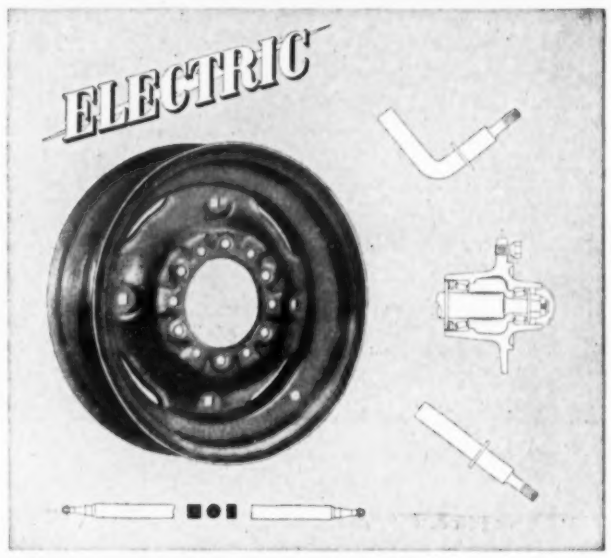
ONE MAN can handle up to ONE TON—EASILY and SAFELY!—with a BLUE HERON TRUCK CRANE. Crane swivels through full circle; one man can lift from socket, leaving truck body clear.

Equip ALL company trucks with sockets. Then change cranes from truck to truck.

CHOOSE THE MODEL WHICH FITS YOUR REQUIREMENTS
Model O.C. 30A Cap. 500#
Model O.C. 30B Cap. 1000#
Model O.C. 30C Cap. 2000#

CAM TOOL CO., INC. 11 RANDWICK AVE. OAKLAND 11, CALIF.

▲ For more details circle **NED-368 D5** on enclosed inquiry slip ▲



A Wheel for Every Job!

Our engineers will recommend the most efficient and economical wheel and axle assembly for your unit. We invite your inquiries.

WRITE US FOR CATALOG
ELECTRIC WHEEL CO.
2802 SPRUCE, QUINCY, ILLINOIS

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Easy To Use

ADJUSTABLE *Floating* REAMERS

Two types are available: Type S for standard reaming and Type SL for blind hole reaming. *Reamer sizes and range:* from ¾" to 4".

Wickman-Brown Floating Reamers with micrometer adjustment assure absolute accuracy, complete concentricity and superfine finishes on standard and blind hole reaming operations. Each reamer has a permanent positive float that is designed for maximum effectiveness throughout the full range of the reamer. Optimum float is predetermined in manufacture and requires no adjustment.

The simple adjustability of Wickman-Brown reamers results in considerable direct labor economy for the user. Adjustment to desired setting requires only the skill, effort and time needed to set a micrometer—no keys or special tools are required. Blades may be sharpened in usual manner without affecting micrometer readings.

FEATURES

- Fully Floating Blades
- Blades may be renewed
- Micrometer type setting
- No gears or springs
- Positive and constant float

THE Wickman MANUFACTURING CO. 10327 CAPITAL AVE. (OAK PARK) DETROIT 37, MICH.

▲ For more details circle **NED-370 D5** on enclosed inquiry slip ▲

PROBLEM? AIR CONDITIONING INDUSTRIAL PROCESS COOLING

SOLUTION Acme SYSTEM-ENGINEERED DRY-EX®

Built in sizes from 5 to 260 tons, the Acme-originated Dry-Ex (direct expansion type) Liquid Chiller improves any air conditioning or refrigeration system. Proven thru-tube construction provides more capacity per size of unit, trouble-free operation, cleanable and replaceable tubes, and many other features exclusive to Acme Dry-Ex construction.

A FEW TYPICAL EXAMPLES ARE:

AIR CONDITIONING	PROCESS COOLING
Atomic Submarine	Food and beverage processing
Instrument calibration rooms	Cold rubber manufacturing
Office buildings	Machine tool cooling
Research laboratories	Chemical distillation

Write for the Acme Dry-Ex Catalog No. 600.

ACME INDUSTRIES, INC.
JACKSON, MICHIGAN
Manufacturers of quality Air Conditioning and Refrigeration Equipment since 1919

▲ For more details circle **NED-371 D5** on enclosed inquiry slip ▲

NEW!

DODGE SCM BEARING

MEDIUM DUTY BALL BEARING PILLOW BLOCK

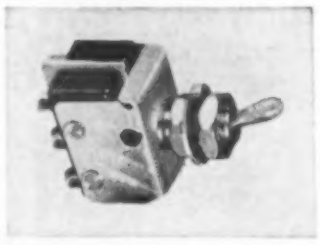
Heavier load capacity, larger shaft sizes, plus all the features and dependability of the famous S C Ball Bearings, are now available in the new S C M line of pillow blocks and flange cartridge type bearings. Fully assembled, pre-lubricated, ready for shaft. From Distributors' stocks, shaft sizes 1-7/16 to 3-7/16. Write for bulletin with complete specifications.

Dodge Manufacturing Corporation, 2100 Union Street, Mishawaka, Ind.

DODGE
of Mishawaka, Ind.

▲ For more details circle **NED-372 D5** on enclosed inquiry slip ▲

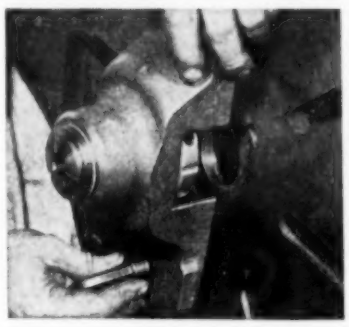
MINIATURE TOGGLE SWITCH
contacts rated 5 amp on 125/250 v



Applicable to test equipment, electronic apparatus, business machines and similar equipment, model A3-8 miniature toggle switch is smooth operating and has positive snap-action in either direction. Stainless steel shell affords corrosion protection and spring mechanism is beryllium copper. Two miniature basic switches encased in the actuator provide double-pole double-throw circuit arrangement. Switch is 7/8-in. long and 1/2-in. thick. Made by **Electro-Snap Switch & Mfg. Co.**, 4232 W. Lake St., Chicago 24, Ill.

▲ For more details circle **NED-374 D5** on enclosed inquiry slip ▲

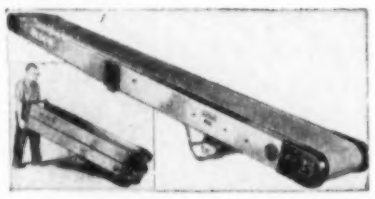
COLLET ADAPTER
for machine tool face plates



Applicable to new or existing equipment, model 5C face plate collet adapter will true work accurately to permit rapid set-ups for turning eccentrics. They also permit precise offsets on milling machines and lathes without need to rebore spindles. Adapter can be indicated to any position, including dead true. Capacities range to 1 in. Made by **Eco Engineering Co.**, Dept. NED, 12 New York Ave., Newark 1, N. J.

▲ For more details circle **NED-375 D5** on enclosed inquiry slip ▲

PORTABLE BELT CONVEYOR
easily moved by one man



Flexibility of use is feature of this lightweight portable belt conveyor. Self-contained motor drive permits easy positioning for horizontal or inclined use, and reversing switch operates conveyor in either direction. This truss-designed aluminum-frame unit folds in half and can be supplied with removable rubber wheels. It handles 150 lb per package and 300 lb total load. Standard belt width is 12 in. with 18-in. bed section, and lengths range from 10 to 21 ft. Accessory equipment includes roller-mounted undercarriage with hydraulic elevation adjustment from 5 to 35 degrees and floor stands that can be arranged to provide various angles and positions. Made by **Samuel Olson Mfg. Co.**, 2423 Bloomingdale Ave., Chicago 47, Ill.

▲ For more details circle **NED-376 D5** on enclosed inquiry slip ▲

Add Years to Air Equipment Life— Use Filtered Air

All air lines collect moisture. Rust and dirt enter the lines, too, to clog lines, and shorten equipment life.

Give your air equipment top protection with Schrader Air Line Filters ahead of each air control unit. Schrader filters offer no restriction to full air flow, even after long use. Moisture is trapped in the bottom of the filter, can be drawn off through a drain cock.

See how Schrader Air Line Filters and other Schrader accessories can add to your effective use of air. Send for the Schrader catalog today.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
459 Vanderbilt Avenue, Dept. L-4, Brooklyn 38, New York

▲ For more details circle **NED-377 D5** on enclosed inquiry slip ▲

More production wide versatility lower costs–

...with this new PRINTMASTER 800, *the most efficient whiteprint machine ever made for the price...compact size with big capacity, ...prints and develops in one continuous operation—without variable solutions, messy cleaning...prints as fast as 40' a minute on roll or sheet stock as wide as 42"...minimum controls, easy and economical to operate...*

Printmaster 800

turns out finished whiteprints in less than a minute, for under 1½¢ a square foot. Makes duplicate originals on which drawing changes can be made easily, preserving valuable originals. Copies quickly bulletins, material lists, specifications, instruction sheets, etc.

Call on the nearest Ozalid office *(see phone book)* for a demonstration...or write 137 Ozaway, Johnson City, N.Y.
In Canada, Hughes Owens Co., Ltd., Montreal.

OZALID

A Division of General Aniline & Film Corporation...*From Research to Reality*

Ozalid OZAMATIC *makes up to 1000 prints an hour, on materials as wide as 16"...can be operated by anybody.*

▲ For more details circle **NED-378 D5** on enclosed inquiry slip ▲

2 Ladders in 1

aluminum **COMBINATION A and EXTENSION LADDER**

NEW To change from an Extension to an A Ladder — pull the bottom fly section from the butt ladder. It locks automatically in place for safe use.

ALCO-LITE

extended lengths — 21' to 29'
weights — 52 lbs. to 67 lbs.

STORES EASILY. The adjustable, rubber tipped outriggers that stabilize the A Ladder retract into the side rails for easy storage.

WILL NOT CLOSE IN USE. Automatic locking device prevents A Ladder from closing in use.

This new ALCO-LITE CAE Ladder is extremely versatile. It has TWO distinct uses — as an Extension Ladder and as an A Ladder. It is made of high tensile strength aluminum alloy, which makes it strong, safe and very easy to handle. It can't rust, rot, burn, warp or splinter. Heavy, corrugated 1", tubular aluminum rungs are permanently attached to the side rails with exclusive ALCO-LITE gusset plate and expansion bushing construction. More than meets the rigid code and tests of the ASA and Metal Ladders Association. WRITE TODAY FOR FURTHER DETAILS.

OTHER ALCO-LITE PRODUCTS—
Step Ladders
Folding Ladders
Platform Ladders
Shelf Ladders
Warehouse Ladders
Extension Ladders
Scaffold Ladders
Conveyors
Stages
Combination Ladders
Fire Ladders

ALUMINUM LADDER COMPANY
Dept. A2
Worthington, Pa.

Please send me further information about the CAE and other ALCO-LITE Aluminum Ladders.

NAME _____
COMPANY _____
ADDRESS _____
CITY _____ STATE _____

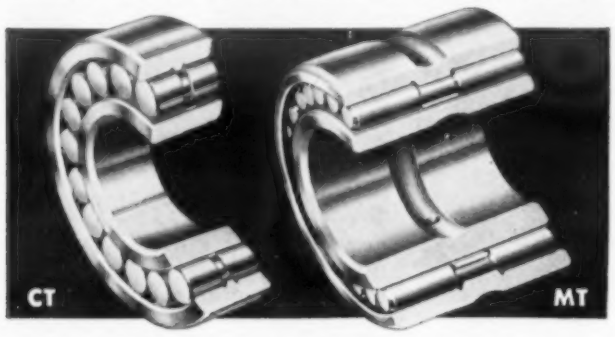
Aluminum Ladder Company
WORTHINGTON PENNSYLVANIA

▲ For more details circle **NED-373 D5** on enclosed inquiry slip ▲

CENTER GUIDED ROLLERS...

GIVE GUIDEROL® BEARINGS

EXTRA CAPACITY FOR EXTRA PERFORMANCE



Center guided rollers in GUIDEROL bearings are assured of constant alignment and their full complement eliminates capacity wasting cages. This design feature guarantees extra performance for GUIDEROL bearings in the MT and CT series. Completely interchangeable with ordinary needle and cylindrical roller bearing sizes. Write for full details.

Send for McGILL Catalog No. 52.

50th McGILL Anniversary

YOU CAN DEPEND ON **McGILL** QUALITY

McGILL MANUFACTURING CO., INC. 101 N. Lafayette St. Valparaiso, Indiana

▲ For more details circle **NED-379 D5** on enclosed inquiry slip ▲

with....

CONE-DRIVE double-enveloping Worm Gear Speed Reducers!

'Double-enveloping'—wrapping worm and gear around each other—is the secret of Cone-Drive gear's compactness.

As a result, smaller gears can be used to carry a load when you specify Cone-Drive gears—up to ⅓ smaller housings, too.

If space saving is a design need, it will pay you to look into Cone-Drive gears and reducers . . . NOW.

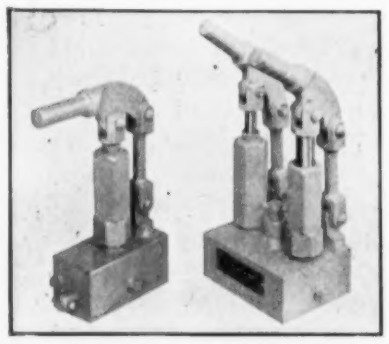
Ask for Bulletin 8901-50

CONE-DRIVE GEARS Division Michigan Tool Company
DOUBLE ENVELOPING GEAR SETS & SPEED REDUCERS 7171 E. McNichols Road • Detroit 12, Michigan

▲ For more details circle **NED-380 D5** on enclosed inquiry slip ▲

HAND HYDRAULIC PUMP

Single and Double Designs to 20,000 Psi
With or without Reservoir



Standard Reservoirs 70- 160- 910 Cu. In. Capacity

Interchangeable Pistons ⅜-½-¾ Inch

1-inch Piston (Special)

Pipe connections ¼" N.P.T.

Handle length is 18 inches.

Unit can be bolted or welded into position.

"We specialize in hand pump units to operate in temperatures from minus 65 F to plus 160 F and with any capacity reservoirs required."

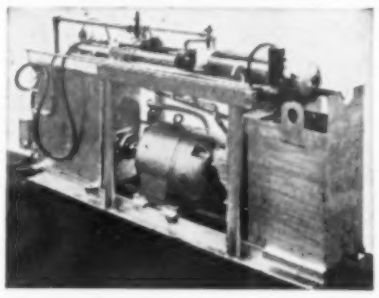
The single pump with ½" or ¾" piston now available in stainless steel.

WILLIAM S. PINE
1635 E. 22nd St., Los Angeles 11, Calif.

▲ For more details circle **NED-381 D5** on enclosed inquiry slip ▲

JET DESCALER

high-pressure high-velocity water stream removes scale without pitting



Hydraulic descaling of hot steel bars and billets prior to forging or descaling is accomplished readily with this Hydra-Jet Descaler. Oil hydraulics are used to actuate a compound piston which instantly pressurizes water to 2000 psi. This air-free water is directed to the hot metal surface through a ring orifice in a thin cone-shaped sheet.

Completely penetrating the steam blanket, this solid sheet of water strikes the hot metal surface directly. Because contact is over a small area, there is very little temperature drop in the hot metal, and forging temperature can be controlled closely. Scale removal is complete and finished surface is free of scale pits.

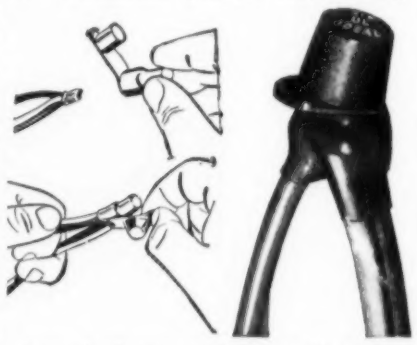
Less than 1 qt of water is required to descale 18 in. of 3-in. bar. Machine is compact enough to be placed between the heating furnace and forging equipment without need for relocating either. Machine will handle up to 3-in. diameter stock in practically any length. It can be supplied for either push-back or push-through type. Made by **Commercial Shearing & Stamping Co.**, Dept. NED-PR, 1775 Logan Ave., Youngstown 1, O.

▲ For more details circle **NED-382 D5** on enclosed inquiry slip ▲

CRIMP CONNECTOR

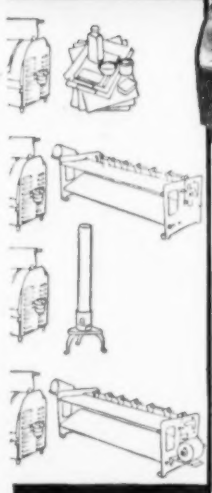
consists of sleeve and wrapping cap

High mechanical strength and insulating qualities are claimed for this crimp type wire connector and Wrap-Cap insulator. Cadmium plated steel crimp sleeve can be used separately with tape in making approved joints. Normally it is slipped over stripped and twisted wires, crimped and the excess wire ends clipped. Flexible vinyl insulator is applied over the crimped sleeve and wire, then the tabbed cap and connecting strip is drawn through the wires and over the end of the joint. Wrap is impervious to ageing, corrosive atmospheres, sunlight, gasoline, etc. Maximum temperature where it may be used is 165° F. Both connector and insulator are UL-listed for general use on branch circuits and fixture wiring. Made by **Ideal Industries, Inc.**, 1032 Park Ave., Sycamore, Ill.



▲ For more details circle **NED-383 D5** on enclosed inquiry slip ▲

AMAZING! the Time and Money Saved WITH Spee-Dee WHITEPRINT OUTFITS



Make Exact Duplicates in as little as One Minute at less than 2c sq. ft.

Inexpensive and simplest of all print making equipment! Thousands in daily use. Enables anyone to make accurate, positive whiteprints from translucent originals. Saves up to 80% of commercial blueprint costs—quickly pays for itself! Makes photocopies, too. Just plug in. Uses diazo (moist or ammonia dry) process. Complete portable *Spee-Dee* outfits in 12" x 18", 18" x 24" and 24" x 36" models. Prices start at **$65.00.** Also a full line of 42" width capacity volume production whiteprinters at moderate prices.

10 DAY FREE TRIAL

Send today for Free Spee-Dee Brochure

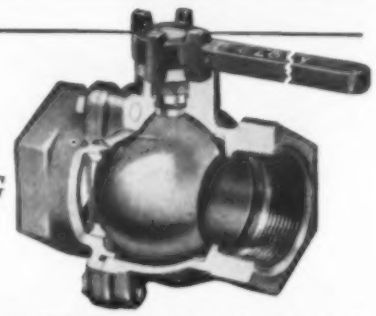
PECK & HARVEY

Mfrs. of Whiteprint, Blueprint & Photocopy Equipment

5638 NORTH WESTERN AVE., CHICAGO 45, ILLINOIS

▲ For more details circle **NED-384 D5** on enclosed inquiry slip ▲

Do You need a LONG-LASTING VALVE?



LIFE WAS 6 MONTHS, NOW 4 YEARS. A finishing plant, typical user of Rockwood Ball Valves, uses them to drain out boiling hot starch from mixing tanks. Previous valves used had lasted 6 months to a year, the Rockwood valves have been in service 4 years and are still going strong. No wonder the company sings Rockwood Ball Valve praises.

These and many other enthusiastic comments praise the efficiency of Rockwood Ball Valves — an efficiency based on these exclusive features —

- **Full, round flow**
- **Quick opening and closing**
- **Longer wear-resistance**
- **Leakproof seal**

Plan now to put these benefits to work in your plant. Valves come in all pipe sizes. Tested and listed by Underwriters' Laboratories, Inc. Write today for complete information. Rockwood Sprinkler Company, 504 Harlow Street, Worcester 5, Mass.

ROCKWOOD **ROCKWOOD BALL VALVES**

For full, round flow efficiency

▲ For more details circle **NED-385 D5** on enclosed inquiry slip ▲

Lightnin® Mixers

Mix fluids in a few seconds

Costs less than hand stirring. Mix fluids rapidly, thoroughly—with a LIGHTNIN Portable Mixer. It clamps on any open tank or container—handles any fluids.

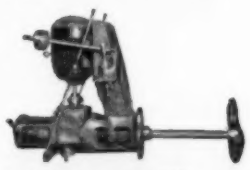
Do hundreds of mixing jobs at low cost. Mix paint, glaze, chemicals. Dissolve powders and crystals. Circulate solvent for cleaning parts. Agitate quench baths. Blend food products, flavors, syrups—with powerful double-action mixing that rotates and tumbles the batch thoroughly, uniformly.

Fully guaranteed to mix quickly, completely. Thousands in use everywhere. Many in service over 20 years.

Thirty models to choose from—sizes ⅛ to 3 HP. Electric and air driven units. Your choice of motors, materials. **Send today for Catalog B-108 and prices.**

TURBINE AND PADDLE MIXERS

Save power mixing big batches. You get exact mixing action you want, with least power input. Hundreds of standard power-speed combinations. For open or closed tanks; top or bottom entering. Sizes 1 to 500 HP. *Send for Catalog B-102.*



SIDE ENTERING MIXERS

For big, big tanks (up to 6 million gallons). Easily serviced without draining tank. Choice of stuffing boxes, or maintenance-free rotary mechanical seals. Sizes 1 to 25 HP. *Send for Catalog B-104.*

MIXING EQUIPMENT Co., Inc.
165-d Mt. Read Blvd., Rochester 11, N. Y.

In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 10, Ont.

▲ For more details circle **NED-386 D5** on enclosed inquiry slip ▲

FREE!

Reference file on New Morse CAM CLUTCHES

Get full details about the unusually compact and adaptable Morse Cam Clutches—highly perfected, accurate devices which positively lock to transmit power in one direction, but which overrun freely in the opposite direction.

This free reference file includes Cam Clutch Catalogs C11-54, C12-54, supplemental data sheets and a durable binder.

You will receive complete information about the construction, functions and operating principles of cam clutches. In addition, you will get a simplified form listing the information required to obtain an engineering recommendation for your specific application. **Send today for *CAM CLUTCH FILE*.**

MORSE

MORSE CHAIN COMPANY
INDUSTRIAL SALES DEPT., ITHACA, NEW YORK

▲ For more details circle **NED-387 D5** on enclosed inquiry slip ▲

If you have a labeling problem ordinary labels can't solve...use AVERY Kum-Kleen self-adhesive LABELS

...the tough ones are our specialty

...where other types of labels are found "wanting"...or when you need to substitute an attractive pressure-sensitive label for a costly nameplate... Avery Kum-Kleen labels are the *best* solution to your problem!

...and so are the other kind..

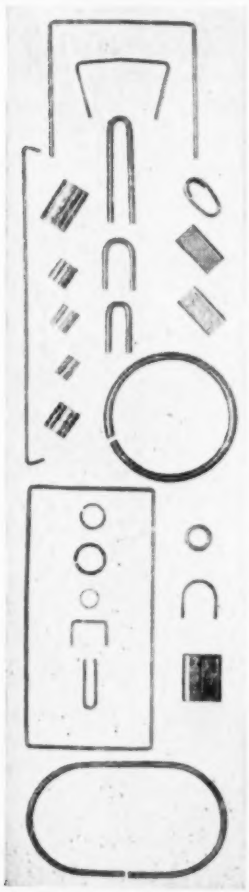
...where you want *faster* labeling... improved appearance...labels that won't pop, curl or peel...or those the housewife can remove without soaking or scraping...there's no substitute for an Avery Kum-Kleen label!

faster • easier • more economical

Patented Avery dispensers...manual or electric... feed die-cut *pressure-sensitive* labels off roller tape, ready to be LAID ON any clean, smooth surface. No moistening...no sticky fingers.
Where can YOU use these labels in YOUR business? Write today for free samples, case histories and prices.

AVERY ADHESIVE LABEL CORP., DIV. 102
117 Liberty Street, New York 6 • 608 South Dearborn Street, Chicago 5
1616 So. California Ave., Monrovia, Cal. • Offices in Other Principal Cities
Originators of Pressure-Sensitive Labels

▲ For more details circle **NED-388 D5** on enclosed inquiry slip ▲



FASTER, MORE ECONOMICAL INDUCTION SOLDERING with

SOLDER PREFORMS

precision-made on high speed machines!

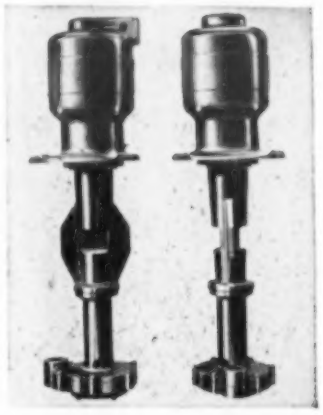
Art Wire's high-speed, precision production of pre-shaped forms in hard or soft solders means substantial savings — in initial cost, and on your production line. Precision-made to every specification, including Military and Federal — in shapes to meet the requirements of your induction soldering. Eliminate variability in soldering, insure sounder, stronger joints with Art Wire Solder Preforms.

Write for illustrated folder. Send blueprints or samples for estimate.

ART WIRE & STAMPING CO.
15 Boyden Place, Newark, N. J.

▲ For more details circle **NED-389 D5** on enclosed inquiry slip ▲

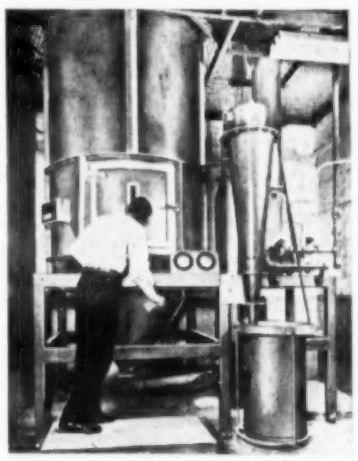
COOLANT PUMP for machine tool installation



One-piece electronically balanced shaft assembly which rotates on two heavy duty ball bearings is incorporated in the model TL-15025K Gusher coolant pump. It is designed for center coolant trough mounting on traveling base machine tool installations. The tapered tubular housing is provided with a reinforced narrow section for passage through the limited width slot in the trough cover. Packing glands and seals are above the liquid high level line, permitting handling of liquids contaminated by dirt, grit and abrasives. Built-in motor is ½, ¾ or 1 hp. Made by **Ruthman Machinery Co.,** 1810 Reading Rd., Cincinnati 2, O.

▲ For more details circle **NED-390 D5** on enclosed inquiry slip ▲

SPRAY DRYER for air drying products at between 200 and 750° F



Compact Semi-Works spray dryer, requiring work space of 7 x 9 ft, incorporates gas-fired air heater to supply drying air at any desired temperature between 200 and 750° F. Equipment is stainless steel, except for external bracing, and is furnished as complete unit, including heater, spray nozzle, product collector and supporting structural steel.

Drying chamber is conical bottom type, with cylindrical portion 4½ ft in diameter and 7 ft high. It is provided with top central hot air inlet, cleanout door, observation window and lighting for chamber interior. Spray-dried product leaves chamber through tip of lower cone section and is conveyed by drying air to collector where it is separated from air stream. Powder is discharged at base of collector into drum or container.

From one position, operator can observe through eye-level observation port the chamber interior, read inlet and outlet temperatures and adjust air heater. Ducts are accessible for quick disassembly and cyclone top is removable. Made by **Bowen Engineering, Inc.,** 12 Station Dr., North Branch, N. J.

▲ For more details circle **NED-391 D5** on enclosed inquiry slip ▲

many properties in one material

Synthane laminated plastics have become "industry's unseen essentials" because of their highly useful combinations of properties. Synthane laminates combine light weight, toughness, density, mechanical strength, insulation resistance, machinability, electrical strength, chemical resistance, moisture resistance, dimensional stability, and many other desirable characteristics. For full information on the many different grades of *Synthane* sheets, rods, tubes, moldings and fabricated parts, send the coupon for our complete catalog.

SYNTHANE

SYNTHANE CORPORATION
N. E. River Road, Oaks, Pennsylvania

Please send me a copy of the Synthane catalog.

NAME_____
COMPANY_____
ADDRESS_____
CITY_____ ZONE_____ STATE_____

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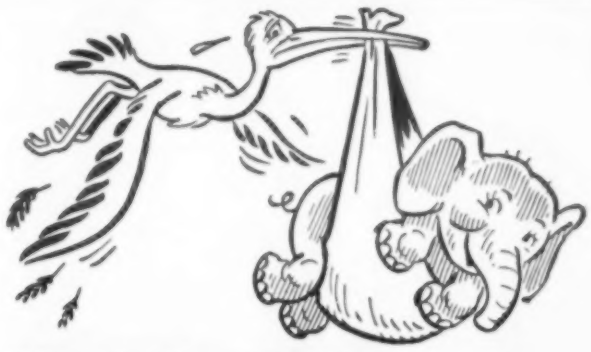

Weighs 28 lb ...lifts 1,000!

Keller Air Hoists are lightweight, portable, easy to hang and service. The positive displacement motor can be varied from zero to full rated speed. Maintenance costs are low . . . overloading, continuous duty or rapid reversals cannot burn out the motor. Available in capacities of 300, 500, 1000, and 2000 lb. Write for Catalog 86.

KELLER TOOL
DIVISION OF GARDNER-DENVER
GRAND HAVEN, MICH.

▲ For more details circle **NED-393 D5** on enclosed inquiry slip ▲

REDUCE YOUR REPLACEMENT COSTS... BUY MONARCH PREMIUM QUALITY TIRES AT STANDARD PRICES.

Tires . . . a small item in the initial cost of a materials handling truck . . . are a big item in maintenance budgets if they require frequent replacement.

To give you longer tire life, MONARCH uses only the best materials . . . even better than those used in *"premium" passenger car tires* . . . in its special solid tire compounds.

When you buy MONARCH tires, you're getting the finest available today . . . and they cost no more than other leading brands.

If economy is your goal . . . MONARCH IS YOUR TIRE!

TORTURE TESTS PROVE . . .

. . . MONARCH tires can take a beating and still outperform other brands. For the detailed story, WRITE TODAY FOR BULLETIN TD-200.

6193-MR

THE MONARCH RUBBER COMPANY
260 Lincoln Park • Hartville, Ohio
7-255 General Motors Bldg., Detroit 2, Mich.

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SAVE 85% Of Needless Washroom Expense

NEW, FASTER DRYING Sani-Dri Provides CLEAN, SANITARY SERVICE

SAVES TOWEL COSTS . . . SAVES MAINTENANCE

Save up to 85% of washroom costs with new, faster drying Sani-Dri hand and hair dryers. No buying and storing of paper towels . . . no monthly service fee for cloth towels. Sani-Dri reduces maintenance overhead and provides 24-hour, automatic drying with no clutter . . . no towel waste . . . no fire hazard. All models carry Underwriters seal and 2 year guarantee.

Only Sani-Dri—The Original Electric Dryer Offers So Many Exclusive Features!

WRITE TODAY FOR NEW ILLUSTRATED FOLDER SHOWING COMPLETE LINE

Manufactured and Guaranteed By
THE CHICAGO HARDWARE FOUNDRY CO.
"Dependable Since 1897"
1945 Commonwealth Ave. No. Chicago, Ill.

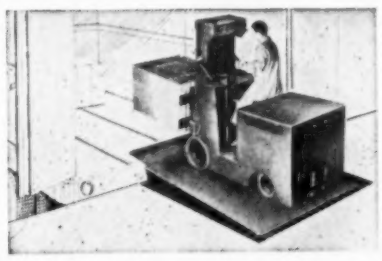
▲ For more details circle NED-395 D5 on enclosed inquiry slip ▲

INDUSTRIAL CHAIR offered in two adjustable heights

A 2-in. thick 16 x 17-in. molded foam rubber seat with a waterfall front edge offers comfortable seating to user of the Factory Posture Chair. Offered in two seat heights, adjustable from 18 to 25 in. and 26 to 33 in., chairs also have padded tilting back rest which is adjustable up and down, forward and backward. Welded steel chairs are furnished in gray baked enamel with wide choice of upholstery colors. Made by **Royal Metal Mfg. Co.,** 171 N. Michigan Ave., Chicago 1, Ill.

▲ For more details circle NED-398 D5 on enclosed inquiry slip ▲

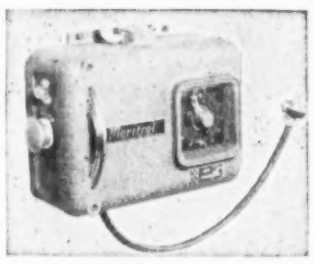
POWER LOADING DOCK adjusts to truck or car height



Fast, safe and economical loading and unloading of trucks and railroad cars is possible with this Power Dock 6000. Easily installed in loading dock, this electro - mechanical unit will support up to 20,000-lb loads. Retractable lip extends a full 24 in. over the tailgate or steps. Finger-tip button controls smooth up and down as well as in and out movement. Mechanism is sealed from weather. Made by **Hartman Metal Fabricators, Inc.,** Dept. 7, 133 Murray St., Rochester, N. Y.

▲ For more details circle NED-399 D5 on enclosed inquiry slip ▲

ELECTRIC TIMING UNIT incorporates solenoid valve



Various time ranges are available in the type D494A Meritrol automatic reset electrical timer, adaptable for timed operation of machines or processes. Once the desired time is set, cycles will repeat as initiated by the pushbutton, which also serves as an emergency stop. Unit incorporates a solenoid valve for use on 50 psi air pressures. It has a 3/32-in. air orifice. Timer pointer travels from set time toward zero. Among ranges available are 60, 30, 15, 5 or 3 minutes and 60, 30, 15 and 5 seconds. Neon signal light indicates operating time of the enclosed-case timer. Made by **Emmett Machine & Mfg., Inc.,** Dept. NE, 445 E. Turkeyfoot Lake Rd., Akron 19, O.

▲ For more details circle NED-400 D5 on enclosed inquiry slip ▲

FASTER! MORE ACCURATE!

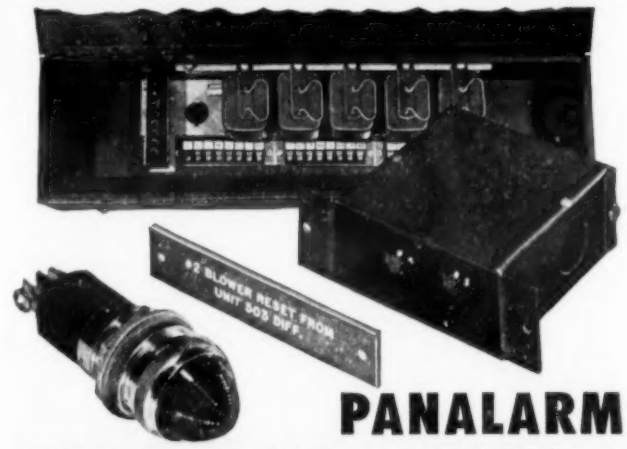
. . . the MATEER Electric Filler

1. ONE FILLER . . . handles liquids, powders, pastes.
2. IT'S FASTER . . . fills up to 240 containers per minute!
3. IT'S ACCURATE . . . 99.7%!
4. IT'S EASY TO MAINTAIN . . . all parts contacting materials can be taken apart, cleaned, replaced in 5 minutes!
5. IT'S FLEXIBLE . . . custom engineered to *your* needs—*one user fills 27 products* with 1 M.E.F.!

Ask for our new brochure "How Modern Is Your Filling Equipment?"
Write Dept. N455

G. DIEHL MATEER CO.
Lincoln Highway, Stratford, Wayne, Pa.

▲ For more details circle NED-402 D5 on enclosed inquiry slip ▲



PANALARM AUDIO-VISUAL SIGNALS reduce your operating costs

Applied to any automatic or semi-automatic process, PANALARM "50" Annunciators simplify operation. They provide a combined audible and visual signal requiring operator acknowledgment when any "off-normal" condition occurs. They give high or low signals for liquid level, temperature, pressure, mechanical limits, pump failure or any similar factor.

System is pre-wired, easily installed. All contacts and moving parts are within hermetically sealed plug-in units which assure trouble-free operation, and are suitable for Class 1, Div. 2 locations. Additional signals may be added by simply plugging into chassis.

WRITE FOR CATALOG 100.

PANALARM PRODUCTS INC.
7421 N. HAMLIN AVE. • SKOKIE, ILLINOIS

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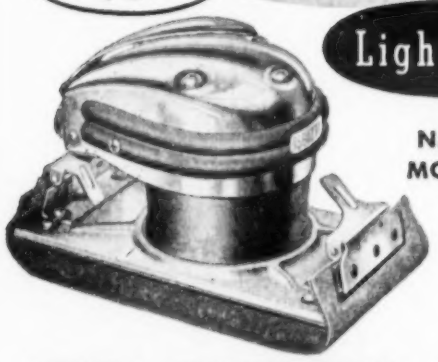
Fast POWERFUL Lightweight



NATIONAL MODEL 400

CUTS FINISHING COSTS!

National Sanders are made for tough use on production lines. Properly used, they will cut sanding time up to 75% over hand sanding . . . reduce operator fatigue . . . and, at the same time, produce a better finish. These lightweight, vibrationless block sanders can be used on wood, metal, plastic, felt, stone, and other surfaces. Write for more information today.

NATIONAL NS SANDERS

NATIONAL AIR SANDER, INC.
2818 AUBURN ST., ROCKFORD, ILL.

▲ For more details circle NED-396 D5 on enclosed inquiry slip ▲

NEW ALL-JACKETED Gate Valve WITH REPLACEABLE SEATS

Valves in line size 1½" through 4" available in cast iron, steel, bronze, Ni-Resist and stainless steel.

Valves in line size 6" through 12" are made of fabricated steel or stainless steel.

The H&B "all-jacketed" gate valve does not need to be removed from the process line to re-machine the seats. Replacement inserts can be installed in a matter of minutes, minimizing shut-down time . . . Also jacketed pipe, fittings, plug cocks, pumps, meters, flexible hose. Write for Catalog J-50.

HETHERINGTON & BERNER INC.
Engineers, Manufacturers
719 KENTUCKY AVE. INDIANAPOLIS 7, IND.

▲ For more details circle NED-397 D5 on enclosed inquiry slip ▲

A man who feels safe works better!

Economy

Headquarters for standard and special built overhead service lifters and materials handling since 1901.

Safety, structural strength, and performance are the first considerations in designing Economy Hi-Reach Telescopers. Over the past 50 years, Economy engineers have constantly improved the mechanical construction to obtain maximum stability, smooth time-saving lifting action and safety.

Standard Model LB, Hi-Reach Telescoper, four heights 20 ft. to 35 ft.

Standard Model PUL with extended platform for Hi-Reach work over floor obstructions. Counter balanced base.

Model PUL collapsed to pass through door.

Standard Model PUL heights 10 ft. to 15 ft.

Custom Built Hi-Reach Telescoper, 70 ft. lift. Heights up to 100 ft. available.

Write for new 40 page catalog. Pictures all types of maintenance lifters as well as materials handling equipment.

ECONOMY ENGINEERING CO.
4519 W. Lake St., Chicago 24, Ill.
New York Office, 342 Madison Ave., New York 17, New York

▲ For more details circle NED-401 D5 on enclosed inquiry slip ▲

Compare! No Other Lift Truck can equal the performance of Automatic's New "DOCKER"

✓ Shortest, most compact truck in its class!

✓ Lowest step height—best grade clearance!

✓ Top lift and travel speeds, maximum stability!

Best performing truck on the market for the trucking industry and other close-quarter materials handling, the new "Docker" is 5 ways superior! Overall length (less fork) of 53⅝" • step height of only 7" • lift speed of 65 FPM • grade clearance of 45% • turning radius of 55". *No other* truck of its type offers so much! The "Docker" provides greater stability, too, through 4-wheel suspension and a lower center of gravity. It is available in Mono-Lift or Duo-Lift, 1,000 to 3,000 lbs. capacities. Lease the "Docker" without 1¢ capital investment at amazingly low rates...or purchase it on deferred-payments after modest amount down...through exclusive "Earn-Its-Own-Way" Lease-Finance Plan. Write for details, today!

Automatic

WORLD'S LARGEST EXCLUSIVE BUILDER OF ELECTRIC-DRIVEN INDUSTRIAL TRUCKS
61 W. 87th St., Dept. D-5, Chicago 20, Ill.

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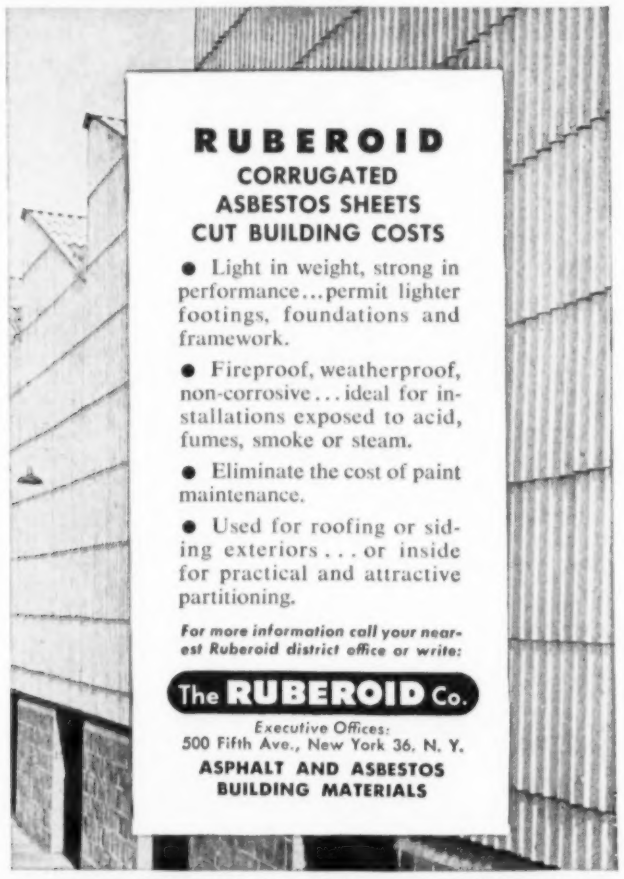

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4⅞"

2½"

For after shutdown protection...

AGASTAT®

TIME DELAY RELAY

Allows operation of auxiliary protective devices* after operating cycle is stopped. Easily installed in any electrical line.

The AGASTAT is—

- light, versatile, dependable.
- instantaneous recycling.
- unaffected by voltage variations.
- adjustable in timing from 0.1 second to more than 10 minutes.
- available in models that offer delays on energizing and de-energizing, two step delays, manually-actuated time delay switch, remote push button control.

***WRITE** for new 4-page application folder describing how one large company solved its after-operating problem. Address Dept. A21-45.

AGA DIVISION

Elastic Stop Nut Corporation of America

1027 Newark Avenue, Elizabeth, New Jersey
Pioneers in pneumatic timing.

▲ For more details circle **NED-406 D5** on enclosed inquiry slip ▲

GROUND CLAMP design prevents static

Static preventive ground clamp, made in standard sizes from ½ to 8 in., utilizes Allen Holo-Krome screw which takes a firm "bite" into pipe or conduit for positive grounding. Made of hot dip galvanized malleable iron, clamps have terminals accommodating 8, 6, or 4 bare or insulated ground wire. All screws are secured with lockwashers and special hubs are available for use with rigid conduit, electromechanical tubing and armored ground wire. Made by **Gedney Electric Co.**, Dept. ED-4, RKO Bldg., Radio City, New York 20, N. Y.

▲ For more details circle **NED-407 D5** on enclosed inquiry slip ▲

INDUSTRIAL VACUUM CLEANER is 1½-hp heavy-duty machine for wet or dry applications

Maximum sealed suction rating of this No. 95 heavy-duty vacuum cleaner is 70 in. of water. It will also move 75 cfm of air through a 1-in. orifice. Dry capacity is 1½ bushels of dirt and wet recovery capacity is 13 gallons. Accordion type hose measures 5 ft, but can be expanded to 15-ft length while retaining its standard 1½-in. inside diameter. Swivel type intake pipe can be swiveled 270 degrees for ease of cleaning without moving machine. Square steel tank has 3-in. casters which permit towing the cleaner by the hose without danger of tipping. Locking device holds machine stationary when desired. Both hose and electric cord can be carried on top of machine without interfering with switch operation.

Standard accessories available are 6-in. nozzle for upholstery and general purpose use, a 6-in. brush and a crevice tool. Also supplied is a hose swivel which can be rotated 360 degrees or locked in any of four positions. Optional equipment includes a 15-in. brush, a squeegee and a 15-ft length of hose, plus extension tubes for various applications. Motor is obtainable in 115 or 220 v standard or 125 or 240 v as special. Made by **Black & Decker Mfg. Co.**, 762 E. Pennsylvania Ave., Towson 4, Md.

▲ For more details circle **NED-408 D5** on enclosed inquiry slip ▲

Only 90 seconds to drill 3½" holes through 4" concrete slab with TRUCO WATER SWIVEL and TRUCO SWIVEL DIAMOND DRILL BITS

This combination can drill at high speed in hardest aggregates with only 150 lbs. pressure and ½" H.D. motor as against 1,000 lbs. pressure and 1"-1¼" H.D. motor specified for other tools. Truco combination can drill *reinforced concrete;* amazing drilling speed in brick, granite, ceramic tile, marble. Truco Water Swivel and Truco Swivel Diamond Bits can easily pay for themselves on your first job. Write for folder:

WHEEL TRUEING TOOL COMPANY
55-3200 West Davison Avenue • Detroit 38, Michigan

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TUBE

FLARING MACHINES

BEADING MACHINES

DEBURRING MACHINES

BENDING MACHINES

LEONARD
Precision Products Co.

9200 Bolsa Avenue, Santa Ana, California

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YOU CAN HEAT *ANYTHING*

FROM A NEEDLE . . . TO A TURBINE SHAFT

FASTER AND BETTER WITH *LepeL*

HIGH FREQUENCY *Induction* HEATING UNITS

2½ KW INDUCTION HEATING UNIT

100 KW. INDUCTION HEATING UNIT

- BRAZING
- HARDENING
- SOLDERING
- ANNEALING
- MELTING

The Lepel line of induction heating units represents the most advanced thought in the field of electronics as well as the most practical and efficient source of heat yet developed for industrial heating. With a background of half a century of electrical and metallurgical experience, the name Lepel has become the symbol for quality in induction heating equipment embodying the highest standards of engineering achievement, dependable low cost operation and safety.

If you are interested in the application of induction heating you are invited to send samples of the work with specifications of the operations to be performed. Our engineers will process these samples and return the completed job with full data and recommendations without any cost or obligation.

LEPEL Electronic Tube GENERATORS
1 KW; 2½ KW; 5 KW; 10 KW; 20 KW; 30 KW; 50 KW; 75 KW; 100 KW.

LEPEL Spark Gap Converters
2 KW; 4 KW; 7½ KW; 15 KW; 30 KW.

WRITE FOR THE NEW LEPEL CATALOG . . . . . 36 illustrated pages packed with valuable information on high frequency induction heating.

All Lepel equipment is certified to comply with the requirements of the Federal Communications Commission.

LEPEL HIGH FREQUENCY LABORATORIES, INC.
55th STREET and 37th AVENUE, WOODSIDE 77, NEW YORK CITY, N. Y.

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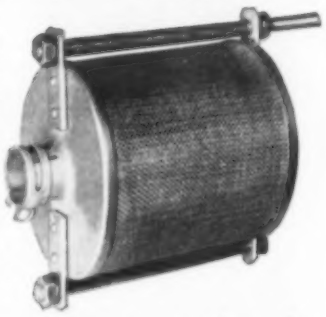
SPARK ARRESTER FOR ENGINE EXHAUST



DESIGNED for engines or vehicles operating in fire-hazardous areas, the line of Air-Maze exhaust spark arresters is equipped with a clamping device that fits on the engine tail pipe. Clamp sizes range from 7/8" I.D. to 4½" I.D.

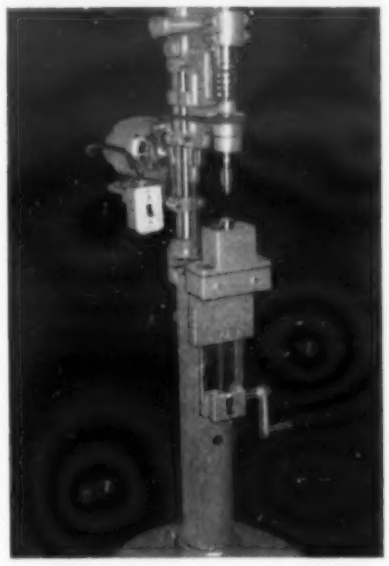
Arresters are constructed of stainless steel screen wire and nickel-plated steel, in cylindrical shape to provide large area and resulting low back pressure. Based on principle of the Davey Miner Lamp, exhaust sparks are dampened by dissipating heat so rapidly ignition temperatures cannot be maintained on outside of screen.

Units can be quickly disassembled for cleaning, have brackets for supporting to engine or equipment frame. Made by Air-Maze Corporation, 25000 Miles Road, Cleveland 28, Ohio. For more details write direct for bulletin SA-148.

AIR-MAZE *The Filter Engineers*

▲ For more details circle **NED-412 D5** on enclosed inquiry slip ▲

ADJUSTABLE ANVIL RIVETERS
feature rapid set-up changes



Now available for all 1955 riveters, adjustable anvils are accessory items. These optional attachments permit rapid changes in set up. This affords versatility so that machines can be adapted for metals, plastics, glass and ceramics. Raising and lowering device is precision - machined tool steel and permits maximum travel of 8 in., controlled by a hand crank. Made by **Lemert Engineering Co.**, 203 E. Jefferson St., Plymouth, Ind.

▲ For more details circle **NED-414 D5** on enclosed inquiry slip ▲

MOBILE CRANE
15-ton capacity unit has 30-ft boom which can be lengthened 5 to 20 ft

This 15-ton capacity model 151-T41 CraneMoble which fills the gap between small and large Bay City mobile cranes is mounted on carrier powered by 404 cu in. displacement Hercules gasoline engine. Carrier has single wheels in front and dual tandem rear wheels. Heavy duty main transmission with three-speed auxiliary provides 12 forward speeds to maximum of 44 mph and three reverse speeds. Front and rear extendable outriggers are standard.

Standard 30-ft boom of two sections has pin-connected lattice construction and is supported by cable suspended floating bridle so arranged that boom can be lengthened by adding 5, 10 or 20-ft center sections without changing boom hoisting cable. Independent boom hoist of worm and worm wheel type is operated by separate friction clutches which raise and lower only under power. Load-lowering mechanism, when used with a six-part block, will allow minimum controlled lowering at about 1 ips. Load can be quickly stopped by drum brake. Made by **Bay City Shovels, Inc.**, 2550 Center Ave., Bay City, Mich.

▲ For more details circle **NED-415 D5** on enclosed inquiry slip ▲

For a better packaging job
IN LESS TIME AT LOWER COST

. . . send for your FREE copy
of USS Gerrard's new 36-page Blue Book of Packaging.

GERRARD STEEL STRAPPING DIVISION
UNITED STATES STEEL CORPORATION
4717 S. Richmond St., Chicago 32, Ill.

USS GERRARD
ROUND STEEL **STRAPPING** FLAT STEEL
UNITED STATES STEEL

▲ For more details circle **NED-417 D5** on enclosed inquiry slip ▲

HURRY AND
Get this Booklet
FOR DATA ON
100% EFFECTIVE RUST KILLER
ZRC

94% ZINC RICH COATING STOPS CORROSION ON IRON AND STEEL . . . "COLD GALVANIZING" FORMULA ASSURES LOWEST FINAL COST

ZRC Covers 1200 sq. ft. per 24 lbs. giving ¼ oz. zinc per sq. ft. Easily brushed or sprayed on new or old surfaces, ZRC cuts maintenance costs and extends the life of structural steel work, bridges, corrugated iron roofing, water tanks, railway installations, gas storage tanks, shipbuilding, dock and harbor installations . . . as well as on original equipment.

ZRC "Cold Galvanizing" gives added sales ammunition to the alert OEM.

In presence of water the zinc (A & B) becomes anodic. The iron or steel (A¹ & B¹) becomes cathodic. Corrosion attacks the anode, or zinc layer, forming a film which helps retard further corrosion, while the cathodic iron or steel remains untouched.

The SEALUBE Company
Caulking and Coating Division • Dept. WN, Wakefield, Mass.

STOPS RUST COLD

▶ Some Territories Open

▲ For more details circle **NED-418 D5** on enclosed inquiry slip ▲

USE THIS NEW SAFETY MATERIAL ALL OVER YOUR PLANT

Safety
GRIP-STRUT
NON-SKID—RUGGED—LOW COST

Safety Grip-Strut is a new basic material. All one piece, steel or aluminum, in various sizes and gauges. Sold like lumber, used like lumber and stocked in your storeroom like lumber. Ideal for on-the-job fabricating. Not welded, riveted or expanded. It presents an open space, in a diamond shaped pattern, in excess of 75% of the area for ready access of light and air and gives a positive NON-SKID footing in all directions. Ideal for stair treads, fire escapes, cable trays, work platforms, catwalks, flooring and for original equipment safety treads. Your own mechanics can install it—it's inexpensive, yet permanent and safe.

Now! for greater safety

New Safety GRIP-STRUT stair treads custom made to your exact size . . . Here for the first time is a really SAFE stair or ladder step, combining the proven features of Safety GRIP-STRUT material with a double locked carrier plate to provide additional safety over present types.

Made to your own individual size at the factory, the cost is amazingly low . . . you can buy a standard 18" stair tread in lots of 50 for $2.40 each. Prices proportionately lower in greater quantities.

Distributors in all principal cities. Consult your classified telephone directory.

GRIP-STRUT division
The Globe Company
Manufacturers since 1914
4002 S. Princeton Ave. • Chicago 9, Illinois

▲ For more details circle **NED-413 D5** on enclosed inquiry slip ▲

HOW TO USE DRY TYPE TRANSFORMERS PROFITABLY IN YOUR PLANT

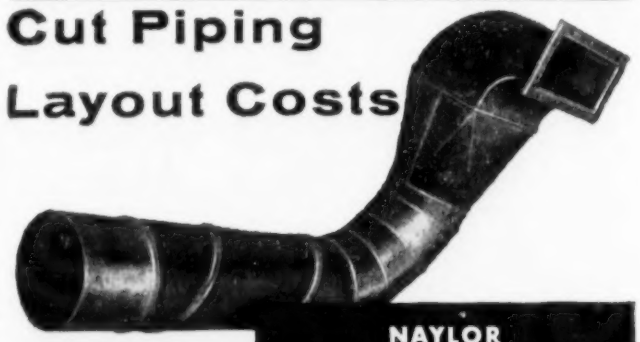
Planning the electrical system of your plant with Acme Electric dry type transformers can save you money, material and time. How to eliminate double wiring, provide 3-wire secondary circuits, insulate circuits or balance voltage are only a few of the many ways you can use Acme Electric dry type transformers. Write for the folder DT 195 containing ideas and wiring diagrams. Acme Electric transformers are available in single phase sizes from 1/10 thru 500 KVA; three phase from 3 thru 750 KVA.

ACME ELECTRIC CORPORATION
MAIN PLANT: 304 WATER STREET • CUBA, N. Y.
West Coast Engineering Laboratories:
1375 W. Jefferson Blvd., Los Angeles, Cal.
In Canada: Acme Electric Corp. Ltd. • 50 North Line Rd. • Toronto, Ont.

Acme ACME Electric TRANSFORMERS

▲ For more details circle **NED-416 D5** on enclosed inquiry slip ▲

Cut Piping Layout Costs



NAYLOR FABRICATION SERVICE Can Save You Time, Material and Labor

By eliminating numerous flanged joints and combining several fittings into one integral unit, Naylor fabrications assure greater efficiency and real economy—from the simplest to the most complex layout. All types of materials fabricated accurately to your specifications. Sizes from 3 to 44 inches in diameter. Thicknesses to 3/8".

Write for Bulletin No. 525.

NAYLOR PIPE
Naylor Pipe Company • 1247 East 92nd St., Chicago 19, Illinois
Eastern U.S. and Foreign Sales Office 350 Madison Ave., New York 17, N.Y.

▲ For more details circle **NED-419 D5** on enclosed inquiry slip ▲

STOP THAT FALLING LOAD

So that loads cannot be bounced from skid or pallet while in motion, ELPAR engineers have perfected a New Hydraulic Load Stabilizer. This valuable device protects the load and operator. It can be supplied on any ELPAR fork truck with hydraulic lift. Stabilizer consists of a large protective pad that clamps firmly on top of load.

Write for Complete Information

THE ELWELL-PARKER ELECTRIC COMPANY
4093 St. Clair Avenue Cleveland 3, Ohio

For more details circle **NED-420 D5** on enclosed inquiry slip

REMEMBER THE NAME . . . Rubyfluid

the easy-to-use Soldering Flux for neat, strong unions.

Use Rubyfluid Flux—liquid or paste—to get neat, strong unions speedily and easily. Rubyfluid is a special fast acting formula, wets out freely, is free from harmful and objectionable fumes, economical to use. Try it—send $1 for special offer—1 pt. liquid, ½ lb. paste flux and helpful booklet.

For Stainless Steel use *Ruby's Stainless Steel Flux*, perfected for that metal.

RUBY CHEMICAL CO.
72 S. McDowell Street Columbus 8, Ohio

Rubyfluid

For more details circle **NED-421 D5** on enclosed inquiry slip

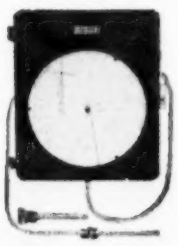
PALMER

MERCURY ACTUATED

TEMPERATURE INDICATING INSTRUMENTS

4½" DIAL THERMOMETERS

Made in 3 types to suit any requirements. Rigid stem, wall or flush mounted, 11 inches of scale reading. Interchangeable with standard industrial separable sockets. Stem can be placed at any angle and case can be rotated to any readable position.



RECORDING THERMOMETERS

Twelve inch die-cast aluminum case with black or white wrinkle or satin finish. Single or multiple pen construction. Electric or spring wound clock, 24 hour or 7 Day Revolution. Flexible Armor and bulb of stainless steel. Ranges—40+950°F. or Equivalent in °C.

INDUSTRIAL THERMOMETERS

Red-Reading Mercury—Extruded brass case—chrome finish. Ranges —40+950°F or Equivalent in °C.

RED-READING MERCURY LABORATORY THERMOMETERS

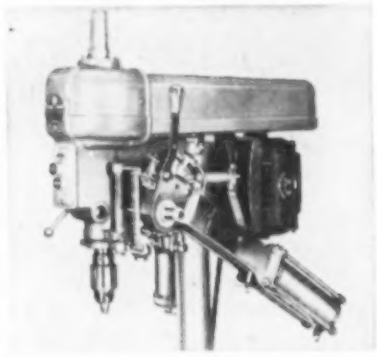
Thoroughly annealed for permanent accuracy. Complete line A. S. T. M. and fractional division types.

WRITE FOR CATALOG INFORMATION

PALMER THERMOMETERS, INC., Cincinnati 12, Ohio

For more details circle **NED-422 D5** on enclosed inquiry slip

DRILL PRESS AIR FEED
easily installed and does not interfere with normal machine use

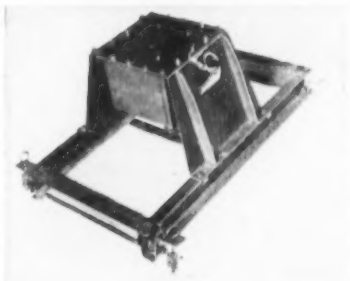


Any Walker-Turner drill press with up to 6-in. spindle travel can be equipped with this air feed, installable in about 10 minutes. It will not interfere with normal function, swing or position, providing sensitive, automatic feed-and-retard action for variety of continuous production operations.

Rate of feed can be controlled to fit the job, including checking and slowing-down the spindle at several points as well at the drill's break-through point. Release of valve stop reverts the feed to single cycle operation, and removal of two plugs from the air cylinder converts it for conventional hand operation. Feed pressure at drill point, which averages 14 times greater than air pressure, can be regulated to suit production requirements. Made by **Kearney & Trecker Corp.**, Walker-Turner Div., 129 Berkman St., Plainfield, N. J.

For more details circle **NED-423 D5** on enclosed inquiry slip

VIBRATING SCREENS
for suspension or floor mounting, have electromagnetic vibrators

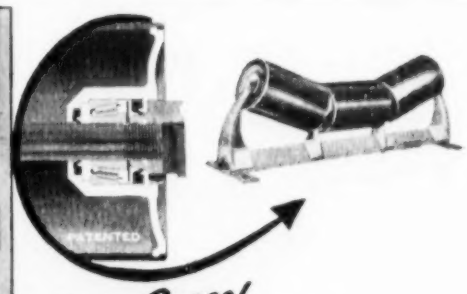


Compact VS series of vibrating screens to screen dry industrial materials have dust-sealed electromagnetic vibrators. Offered for operating on 110, 220 or 440 v, 50 or 60 cycles, screens are either cable-suspension mounted, or have triangular frame for floor mounting. Screen surface is maintained at adjustable angle of 33 to 40 degrees from horizontal.

Full-width hook bar at discharge end and an adjustable hook bar at feed end maintain screen cloth tension. Steel channels form screen frame above which vibrator is mounted on plate bridge. Moving armature rod is attached to cloth through transverse steel bars on both sides of screen surface. Sides of cloth remain free, with sealing strips preventing spillage of material over screen sides.

Single deck, single vibrator models are made in 18 x 36, 24 x 48, 36 x 60 and 48 x 72-in. sizes, while double deck, dual vibrator models are made in 18 x 36, 24 x 48 and 36 x 60-in. sizes by **Syntron Co.**, 405 Lexington Ave., Homer City, Pa.

For more details circle **NED-424 D5** on enclosed inquiry slip



JUST

Saves Grease! Saves Labor! Saves Belts!

If You Use Belt Conveyors You Need

CONTINENTAL IDLERS

- **UNIT-SEALED**
- **TIMKEN BEARINGS**
- **PRE-LUBRICATED**

Write for Bulletin NED-116

ALL SIZES! ALL TYPES! CG-5301

INDUSTRIAL DIVISION
CONTINENTAL GIN COMPANY
Birmingham 2, Ala.
ATLANTA • DALLAS • MEMPHIS • NEW YORK

For more details circle **NED-425 D5** on enclosed inquiry slip

WATER SAVING
WITH TROUBLE-FREE COOLING EQUIPMENT

NIAGARA Aero HEAT EXCHANGER

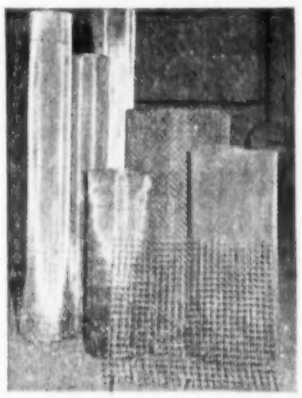
Convenient Units Up To 30,000,000 BTU Capacity

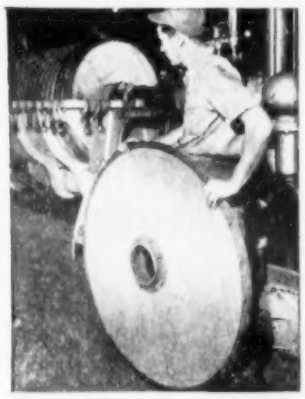
Cools your jacket water for engines or process equipment or electric apparatus. Your closed system keeps free from dirt or maintenance troubles. You can cool air, gases, chemicals, quench baths, plating baths, welding machines, extrusion and drawing machines. You get real precise temperatures, save rejections, lower production costs. Use NIAGARA AERO HEAT EXCHANGER cooling with atmospheric air . . . saves water, pumping, piping and power; quickly saves its costs. Write for Bulletin No. 120.

NIAGARA BLOWER COMPANY

Dept. ED, 405 Lexington Ave. New York 17, N. Y.

For more details circle **NED-426 D5** on enclosed inquiry slip





NO MATTER HOW YOU BUY

INDUSTRIAL WIRE CLOTH

in bulk from stock | or special fabrications

YOU CAN RELY ON

Cambridge

COMPLETE LINE—Cambridge stocks include a wide variety of specifications from the finest to the coarsest mesh in any metal or alloy.

QUALITY—Accurate mesh count and uniform mesh size are assured by individual loom operation and careful inspection just before shipment.

PROMPT SERVICE—You get immediate delivery on the most frequently used types of cloth. If your needs are not in stock, we'll schedule our looms to get your material to you without delay.

CAMBRIDGE ENGINEERS, both in the home office and in the field, are fully qualified to help you select the cloth to meet your needs, whether you order in bulk or special fabrications. In fabricating parts of any type . . . filter leaves, strainers, sizing screens . . . we'll work from your prints or draw up prints for your OK.

LET US QUOTE *on your next order for wire cloth. Call your Cambridge Field Engineer—he's listed under "Wire Cloth" in your classified telephone book.*

OR, WRITE DIRECT for FREE 80-page CATALOG and stock list giving full range of wire cloth available. Describes fabrication facilities and gives useful metallurgical data.

The Cambridge Wire Cloth Co.
Department C • Cambridge 4, Md.

WIRE CLOTH | METAL CONVEYOR BELTS | SPECIAL METAL FABRICATIONS

OFFICES IN PRINCIPAL INDUSTRIAL CITIES

For more details circle **NED-427 D5** on enclosed inquiry slip

"HOW MEYERCORD SERVES INDUSTRY"
No. 6 of a Series

MEYERCORD *Nameplate* DECALS Simplify RE-DESIGN Problems

As competition stiffens perhaps you are considering ways to reduce production expense in planning your improved models and brand new products—of course without sacrificing quality and utility value.

Meyercord Nameplate Decals can help shave costs, while strengthening product identity and sales appeal. Beginning with the re-design stage, Meyercord provides a complete, continuous service to your product development, manufacturing, and merchandising departments.

There is a Meyercord Nameplate Decal for *any* commercial surface, to withstand any temperature extreme or unusual wear. Without obligation, let us send a highly-trained Meyercord Decal engineer to show how to cut costs and boost sales appeal.

FREE! "Mark-It" Manual of Decal Nameplates

Send today, on your company letterhead, for this valuable full-color guide to every industrial problem in marking, identification, instruction, and information.

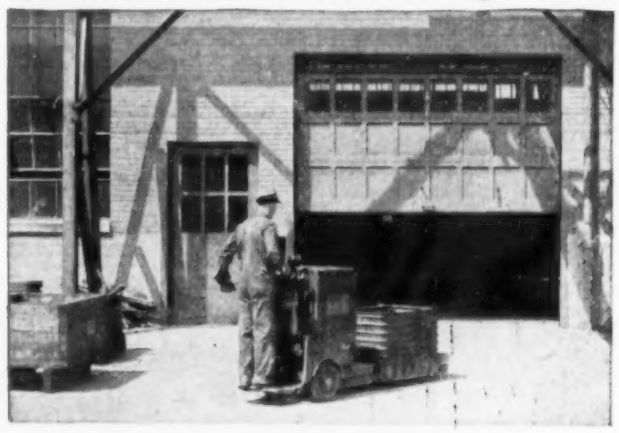
THE MEYERCORD CO.
World's Largest Decalcomania Manufacturers
DEPT. F-316
5323 WEST LAKE ST.
CHICAGO 44, ILLINOIS

▲ For more details circle **NED-428 D5** on enclosed inquiry slip ▲

BARBER COLMAN

Barcol® Radio Control

operates OVERdoors from moving vehicles

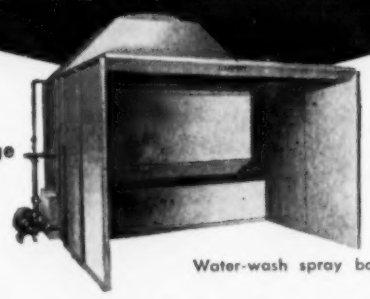


To speed plant traffic or save heat, use Barcol door controls . . . truck operators can open and shut doors by radio without stopping. Also available with pull-cords or convenient wall switches. Exclusive cam closing action on your Barcol OVERdoor assures weather-tight fit yet easy operation. Barber-Colman also makes operators for swinging or sliding doors and sliding gates. Installed, guaranteed and serviced by your Barcol distributor. Look under "Doors" in phone book.

BARBER-COLMAN COMPANY, DEPT. S54, ROCKFORD, ILLINOIS

▲ For more details circle **NED-429 D5** on enclosed inquiry slip ▲

STANDARDIZED Spray Booths



Full Range of Sizes

Water Wash or Dry Types

Water-wash spray booth

DeVilbiss Standardized Spray Booths—water wash, dry type, bench or leg type in a complete range of sizes—are built of standard, fireproof, reinforced steel panels. They cost less, are easier to erect . . . easier to convert to future needs and give better service.

DeVilbiss Booths are built to the standards of the National Board of Fire Underwriters. They provide a balanced, scientific exhaust, are easy to keep clean, cost less to operate. Write for data.

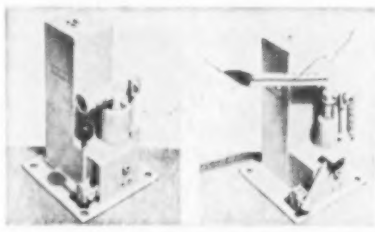
DEVILBISS

THE DEVILBISS COMPANY
Toledo, Ohio

Santa Clara, Calif. • Barrie, Ontario • London, England

▲ For more details circle **NED-430 D5** on enclosed inquiry slip ▲

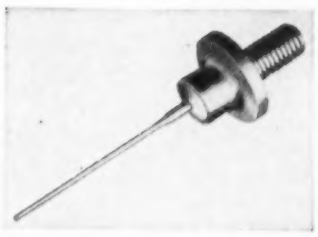
TWO-SPEED HYDRAULIC PUMP
models for foot and hand operation



Hydraulic rams incorporated in the Hi - Lo two - speed concentric piston pump are raised rapidly until a predetermined internal pressure is reached in the system, then the lifting is taken over automatically by a high pressure concentric piston which generates up to 10,000 psi. Pump is made entirely of steel and is available for foot or hand operation, activated by a single pedal or lever. Pump can be "customized" to meet specific applications. Made by **Star Jack Co.,** 1731 Greybar Bldg., New York 17, N. Y.

▲ For more details circle **NED-431 D5** on enclosed inquiry slip ▲

SILICON RECTIFIER
for 125° C ambient temperatures



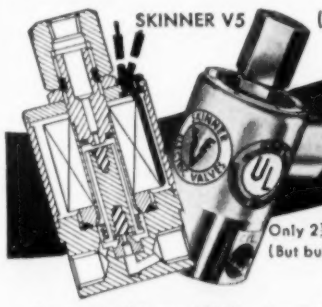
Capable of continuous operation at full rated power at an ambient temperature of 125°C, group of silicon power rectifiers is applicable to both magnetic amplifier and power supply uses. They have high forward conductance and low current leakage, with reported operating efficiencies of 98 per cent. Design calls for conduction cooling. Made by **Transitron Electronic Corp.,** Dept. N, Melrose 76, Mass.

▲ For more details circle **NED-432 D5** on enclosed inquiry slip ▲

SOLDERING IRON
loop tip reaches hard-to-get places

Red molded handle of compact Esico Luger soldering iron fits hand naturally, providing balance and comfort for speedy spot-soldering jobs. Trigger is actuated by one, two or three fingers, and built-in rest for little finger is provided. Iron has dual or single heat control and loop tip which heats quickly and reaches hard-to-get-at places. Twin lights illuminate the work. Iron rests on its side when not in use. Made by **Electric Soldering Iron Co.,** 8055 W. Elm St., Deep River, Conn.

▲ For more details circle **NED-433 D5** on enclosed inquiry slip ▲



RUGGED & READY . . . for countless applications!

Only 2¼" high
(But built like a bull-dog)

No other valve can match the low-cost Skinner V5 in strength of construction and general utility. UL-approved for all-purpose service, it is suitable for all common media and most vacuum applications.

The Skinner V5 gives fast, dependable operation . . . through millions of cycles. It is direct acting, spring loaded, leakproof, and performs perfectly in any position. Inspection is easy because it can be disassembled without removal from the line. Separate operators are available, as well as a broad selection of electrical outlets, port locations and sizes, flow adjustments and coils.

SPECIFICATIONS: Type—two- or three-way, normally open or normally closed, or with directional control; Pressure Range—0-1000 p.s.i.; Duty Cycle—continuous or intermittent; Orifice Diameter: 3/16" to 3/8"; Pipe Size: 1/8", 1/4" or 3/8" NPT; all common AC, DC voltages.

World-wide representation

SKINNER ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY

SKINNER SOLENOID VALVES

Write for Bulletin 501

THE CREST OF QUALITY

112 Edgewood Ave.
New Britain, Conn.

▲ For more details circle **NED-434 D5** on enclosed inquiry slip ▲

SQUEEZE aisles to 5'3"

The Lewis-Shepard Electric JackStacker is best for narrow aisles. Here's why:

It's Extra Short . . . lets you stack 40" long, 4,000 lb. loads to heights of 130" in aisles only 63" wide.

More Maneuverable, too . . . all controls, including brake, are in handle-head permitting operation with handle in any position.

Much More Stable . . . large stabilizing casters on load carrying frame assure maximum stability when high stacking. Get all the facts. Send for catalogs.

MULTIPLY MANPOWER LEWIS-SHEPARD

LEWIS-SHEPARD®
174 WALNUT ST., WATERTOWN 72, MASS.

The Master Line

▲ For more details circle **NED-435 D5** on enclosed inquiry slip ▲

New RIDGID 200 Tripod Power Drive

with **SPEED CHUCK**

Light Weight...
Easily Quickly Set Up...
Built-In Folding Tool Tray and Folding Legs

Power for any hand pipe tools —⅛" to 2" pipe, ¼" to 2" bolts; geared tools to 12".

Leg Spacing and Tool Tray
assure solid rigidity, greater strength . . . No front leg to obstruct swing of die stock handles.

Fast Easy Chucking
new principle—guaranteed to grip tight both forward and reverse, won't slip, even with geared tools . . . 3-jaw centering device turns with pipe . . . Extra-powerful motor, larger brushes, longer commutator.

Your Supply House has it—ready to demonstrate and expedite your order.

THE RIDGE TOOL COMPANY • ELYRIA, OHIO, U.S.A.

RIDGID Work-Saver Pipe Tools

▲ For more details circle **NED-436 D5** on enclosed inquiry slip ▲

You can provide easy mobility to a variety of industrial products with

IRONBOUND ALL-PURPOSE HANDLING UNITS . . .

POPULAR IRONBOUND FLO TRUK

● An easy to handle ruggedly constructed unit for carrying bulky and heavy loads at lowest cost. Seven standard sizes with one or two push handles makes it easy to select the proper truck for your requirements. Ask an Ironbound engineer for suggestions.

The HANDY for furniture and similar items. **The HAULER** for cases, crates, tote boxes, etc. **The HUSKY** for general use throughout the plant.

THE IRONBOUND "SAFETY-SKID" WITH ROUND CORNERS

Ironbound construction assures long hard use with complete safety to product and operator. Still the time proven method for handling of materials efficiently and economically.

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
55 HOFFMAN PLACE • HILLSIDE, N. J.
MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

▲ For more details circle **NED-437 D5** on enclosed inquiry slip ▲

Type N ROTO-CLONE SAVES as it SOLVES Dust Problems

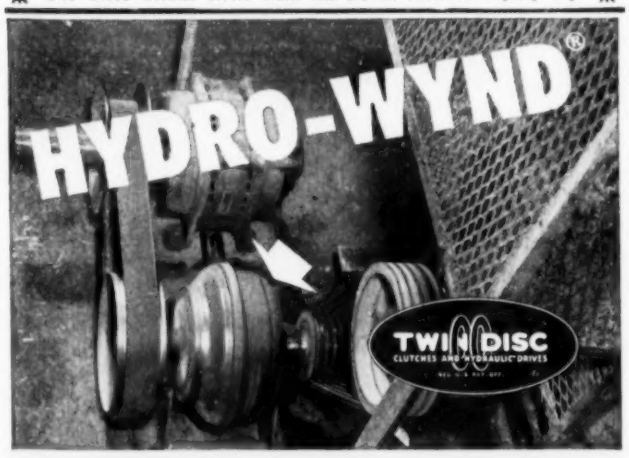
Costs less to maintain because of engineered simplicity. This wet-type collector requires no pumps or nozzles; features maintenance-free entrainment separators; has interior surface free of dirt-catching ledges.

Requires less space because ROTO-CLONE combines collector, exhauster, motor, drive and storage hopper in one compact package.

An outstanding performer because of high cleaning efficiency resulting from combined action of centrifugal force and thorough intermixing of water and dust-laden air. Compensating water level feature assures high efficiency over wide range of exhaust volumes. Available in exhaust volumes up to 50,000 cfm. Write for Bulletin 277.

American Air Filter COMPANY, INC.
391 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

▲ For more details circle **NED-438 D5** on enclosed inquiry slip ▲



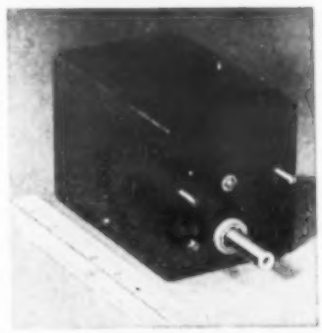
Masterminds winding operations with FLUID DRIVE

Here is the most *economical*, most *dependable* solution to automatic control of your winding operations on textiles, paper, steel, plastic, rubber, wire, foil, etc. By incorporating a fluid coupling with a planetary gear set, the Twin Disc HYDRO-WYND *automatically maintains predetermined tensions* while the roll rpm *decreases* and roll diameter *increases*. Now available in new Model 12.2, as well as 8.4. Write Dept. DS for *Bulletin 163-A*.

TWIN DISC
TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • HYDRAULIC DIVISION, Rockford, Illinois

▲ For more details circle **NED-439 D5** on enclosed inquiry slip ▲

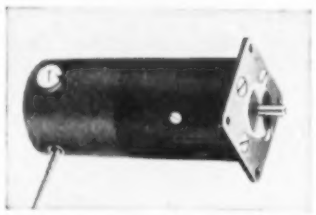
LIMIT SWITCH
adjustable gear-driven type



Limits of the Clark gear-driven limit switch can be adjusted by means of two slotted screws while the equipment on which it is installed is in operation. Gears need not be disengaged. Switch is available for use with capacities up to 550 v and is easily installed and wired. Hardened steel drive shaft operates on precision bushings. Although designed for use with company's automatic electric door operator and Prest-O-Matic complete door units, switch is adaptable to many types of industrial uses. Made by **Clark Door Co.**, 183 Rose St., Newark 8, N. J.

▲ For more details circle **NED-440 D5** on enclosed inquiry slip ▲

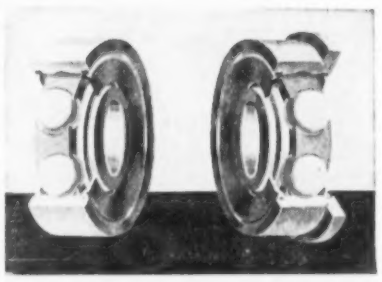
MOTOR-GEAR TRAIN
components combined in one unit



Type 3094 motor-gear train combines the motor and gear train in a single homogeneous unit, thereby minimizing size and weight. Typical unit with ratio of 523:1 weighs 10½ oz, is 1½ in. in diameter and 3½ in. long. Ratios from 3:1 to 10,500:1 are available. Typical torque ratings are 100 lb-in. at 523:1 and 1600 lb-in. at highest ratio. Unit can be used for wide variety of applications requiring low backlash and low composite error. Made by **John Oster Mfg. Co.**, Avionic Div., 3 Main St., Racine, Wis.

▲ For more details circle **NED-441 D5** on enclosed inquiry slip ▲

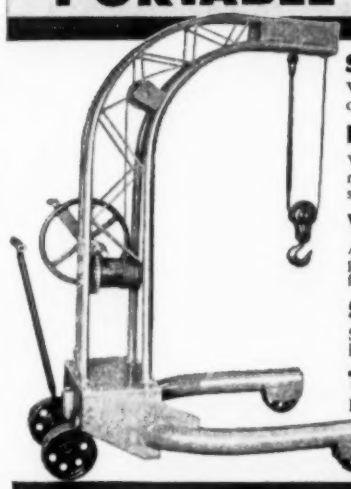
RETAINER RADIAL BEARINGS
single or double side shields



Micro retainer radial bearings with straight or flanged outer rings are now available with single or double side shields for added protection against contamination during installation and use. Metallic type shields can be removed for cleaning the bearing. Type 440 stainless steel and SAE 52100 chrome steel constructions with tolerances of ABEC 5 or better are offered. Sizes range from 3/64-in. bore and ½-in. overall diameter. Oil or grease lubrication can be specified. Made by **New Hampshire Ball Bearings, Inc.**, Grove St. A, Peterborough, N. H.

▲ For more details circle **NED-442 D5** on enclosed inquiry slip ▲

5 REASONS FOR USING "CANTON" PORTABLE CRANES



STRONGER
Welded laced steel housing on sturdy steel tube base.

LIGHTER
Weighs less than one half as much as previous models, insuring one-man operation.

VERSATILE
Adjustable extension handle provides additional leverage for heavy lifting.

SAFE
Self-locking worm mechanism holds load at any point.

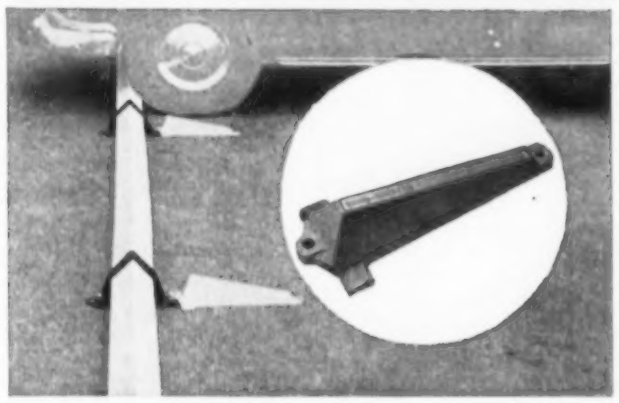
TWO SPEEDS
Fast single-cable operation for light loads. Slower, double-cable operation for heavier loads.

The HILL ACME Co.
"CANTON" DIVISION
6404 Breakwater Ave. • CLEVELAND 2, OHIO

▲ For more details circle **NED-443 D5** on enclosed inquiry slip ▲

Park cars • trucks busses • all types vehicles

The HARRIS-BARRIER Way



SPACE MARKERS

Eliminate messy stripe painting and continuous maintenance problems. Har-Bar Space Markers are simple to install and remove, easy to maintain. When mud or snow obliterates painted lines Har-Bar Space Markers continue to work for you. Rugged rustproof aluminum alloy castings are furnished in traffic yellow for maximum visibility. Har-Bar Space Markers can be used on new installations as shown or added to existing barriers. There is no conversion difficulty.

Give dimensions and shape of your parking area. Harris-Barrier engineers will prepare *your* engineering kit without obligation!

HARRIS-BARRIER, INC.
Parking Engineers
916 E. 23rd Street
INDIANAPOLIS 18, INDIANA
HAR-BAR

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Generalift Pallet Boxes CUT HANDLING and STORAGE COSTS 50%
Send for free booklet

ENGINEERED CONTAINERS FOR EVERY SHIPPING NEED

General Box
1849 Miner Street, Des Plaines, Illinois

★ ★ ★ ★ ★

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Instant Heat Flow . . . Hands Completely Dry in 20 Seconds.

Proven More Sanitary Than Any Other Method of Hand Drying by Impartial Tests of U. S. Public Health Service

END RECURRING TOWEL EXPENSE *Forever* by installing NATIONAL HAND DRYERS! *Never Again* COSTLY WASHROOM MAINTENANCE . . . TOWEL LITTER

PAID FOR THEMSELVES IN 6 MONTHS AT TOUREK MFG. CO. as reported in Factory Management and Maintenance

LEARN HOW YOU CAN SAVE 85¢ OUT OF EVERY MAINTENANCE DOLLAR. No obligation, of course.

AND HERE'S WHAT HAPPENS WHEN YOU INSTALL NATIONAL HAND DRYERS:

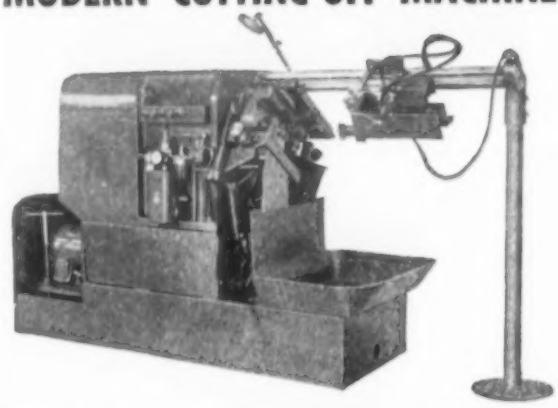
- Recurring towel and laundry expense ended forever.
- Maintenance costs reduced to a minimum.
- No more plumbing expenditures for towel-clogged toilets.
- Absence of unsanitary towel litter.
- No used towel ends to pass along germs.
- Automatic 24-hour service . . . ends complaints about empty towel containers.
- Fastest drying action . . . relieves congestion in washrooms.
- No chapping of hands or face.
- Small compact design leaves washroom free from clutter.

Mail This Coupon Today

NATIONAL DRYER SALES CORP. Dept. 25
616 W. Adams St., Chicago 6, Illinois
Send me the facts. Cost comparison of towels vs. National Hand Dryers, Public Health Service Reports and descriptive literature.
Name_____ Title_____
Company_____
Address_____
City_____ Zone____ State____

▲ For more details circle **NED-446 D5** on enclosed inquiry slip ▲

MODERN CUTTING-OFF MACHINE



Cuts off longer pieces than regular automatic machine — *any length you want.* FAST cutting and chamfering of tubing, pipe, shafting. Check the following figures:

½" Tubing Cuts and Chamfers both outside edges of ½" .030 wall tubing, 5" lengths, every 2.5 seconds.

1¼" Cold Rolled Cuts and Chamfers both ends, 20" long, at rate of 1 every 20 seconds.

1" Tubing Cuts and Chamfers both outside edges, pieces 3" long. One every 3 seconds.

These popular, time saving machines are now available in four sizes, handling work up to 6¾" O.D. Their many cost cutting features are described and illustrated in our latest catalog that will be mailed promptly on request.

WRITE FOR ILLUSTRATED CATALOG

MODERN MACHINE TOOL CO.
JACKSON MICHIGAN

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FARQUHAR

power-belt and gravity
CONVEYORS
are the conveyors
FOR YOU

Write for a copy of our "Owners Report" today! It contains carefully documented reports from owners of Farquhar conveyors in a wide variety of industries—shows how Farquhar conveyors cut handling costs. This same Farquhar experience, know-how, and engineering skill can solve your problems, too!

OLIVER Farquhar CONVEYORS

FREE! "Owners Report"—a booklet of case histories of money-saving conveyor installations.

THE OLIVER CORPORATION
A. B. FARQUHAR DIVISION
Conveyor Dept. D-04, York, Pa.

Gentlemen:
Please send me my free copy of "Owners Report."
Name .....
Firm .....
Address .....
City ..... Zone ..... State .....

POWER-BELT AND GRAVITY CONVEYORS

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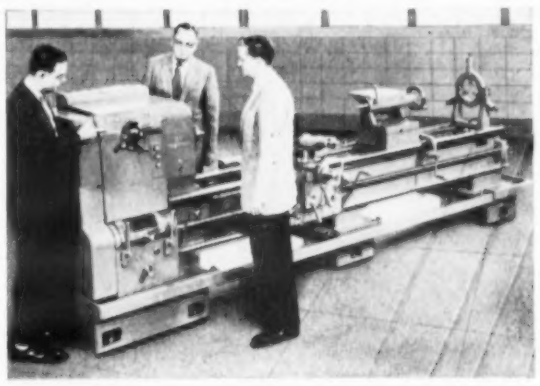
COMPACT SYNCHRO
for electronic and control uses

Available for all functions including transmitters, control transformers, receivers, resolvers and differentials, series R900 synchros are corrosion resistant. Stator is integrally bonded with housing to prevent null shifts when rotating or clamping unit in its mount. Case provides positive grounding and shielding. This accurate unit has 10-minute maximum deviation spread from electrical zero. It is available with leads or terminals, single or double end shafts and for 26 or 115-v excitation, high or low impedance. Made by **Kearfott Co.**, Dept. N, 1378 Main St., Clifton, N. J.

▲ For more details circle NED-449 D5 on enclosed inquiry slip ▲

TOOLROOM LATHE
21½ and 26-in. light-duty sizes have speeds of 16 to 960 rpm

Provided with twelve spindle speeds in geometrical progression from 16 to 960 rpm, geared-head Tray-Top toolroom lathes are now offered in 21½ and 26-



in. sizes. Distance between centers can be 36 to 216 in. Speed changes are selected by a three-lever color-match direct-reading shift mechanism. Spindle with long taper key drive nose is mounted on three zero-precision antifriction bearings. Hole diameters through spindles are 1 13/16-in. and 2 7/16 in. in smaller and larger lathes, respectively.

Headstock bearings, gears and shafts are pressure lubricated with filtered oil. Fifty-four thread and feed changes are made available through a totally-enclosed automatically-lubricated quick-change gear box with lever to reverse the lead screw. Fully enclosed electrical panel provides for safe electrical connections. Power is transformed from 220 v and over to give 110 v at operator's pushbuttons. For easy maintenance, 5 or 7½-hp motor is mounted on rear of headstock. Made by **Cincinnati Lathe & Tool Co.**, 3200 Disney St., Cincinnati 9, O.

▲ For more details circle NED-450 D5 on enclosed inquiry slip ▲

ANY BOOT

ANY SIZE

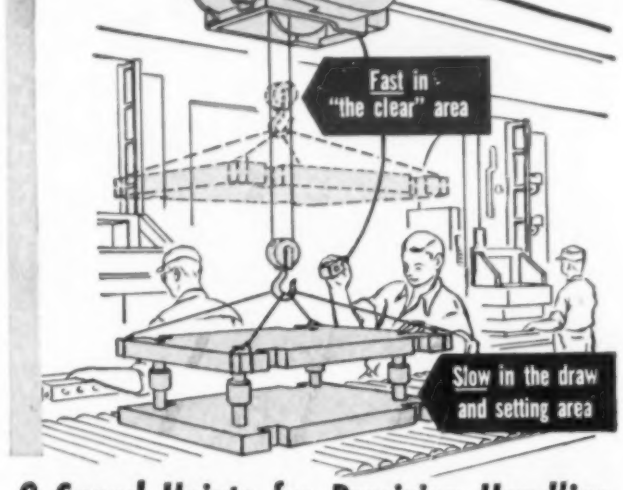
ANY QUANTITY!

Whatever you need in mechanical leather parts—either stock patterns or special designs, check on C/R Sirvis. You'll get the top quality, precise dimensions and long service that result from more than 75 years' experience in tanning and engineering select leathers for mechanical applications.

C/R sirvis MECHANICAL LEATHER

CHICAGO RAWHIDE MANUFACTURING CO.
1301 Elston Ave., Chicago 22, Ill.

▲ For more details circle NED-451 D5 on enclosed inquiry slip ▲



2 Speed Hoists for Precision Handling

Extraordinary for close control and careful handling; two, steady, non-varying speeds; slow where needed, fast where wanted; for die shops, machine shops, foundries, wherever the material must be accurately set or withdrawn.

Ask for further information about Detroit—2 Speed Hoists and NEW General Catalog 795

DETROIT HOIST & MACHINE CO.
Electric Hoist Designers and Builders Since 1905
8268 Morrow Street • Detroit 11, Michigan

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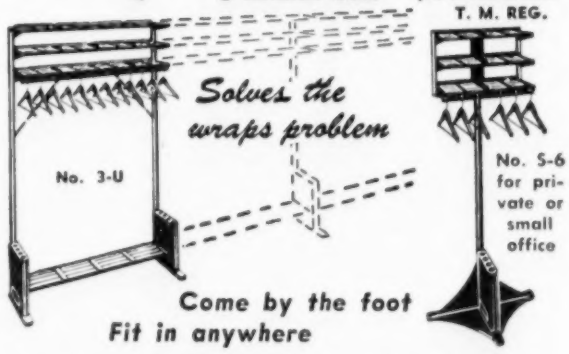
▲ For more details circle NED-453 D5 on enclosed inquiry slip ▲

The OFFICE VALET
T. M. REG.



These modern steel wardrobe racks keep wraps aired, dry and "in press". End crowding of coats and hats in damp lockers or cabinets. Save floor space too—provide ventilated hat space, coat hangar (spaced apart from all others), built-in umbrella stand and overshoe shelf for 3 persons per sq. ft. 4 ft. No. 3-U rack (above) accommodates 12; No. S-6 costumer (right) accommodates 6. Single or double (back-to-back) units in lengths to fit any available space. Strongly welded, heavy gauge furniture steel; baked enamel finish—modern office colors. End locker room evils—answers wraps problem in factories, offices and company cafeterias.

Write for Bulletin OV-8

VOGEL-PETERSON CO.
"The Coat Rack People"
1121 West 37th Street • Chicago 9, Illinois

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Hundreds of machines available that were designed for special industry applications.

Let us know your problem. We'll be happy to submit recommendation.

If your problem is high speed coating of paint, varnish, glue, latex, etc. — POTDEVIN's sixty years of specialization in coating equipment can quickly help you solve it . . . guaranteeing initial low cost and top efficiency. Illustrated is just one of hundreds of special machines. It laminates rolls of materials up to 20" wide at speeds up to 50 feet per minute.

ESTABLISHED IN 1893 POTDEVIN

POTDEVIN MACHINE CO.
273 North Street • Teterboro, N. J.

Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling.

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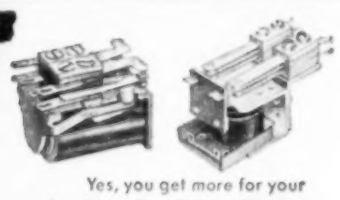
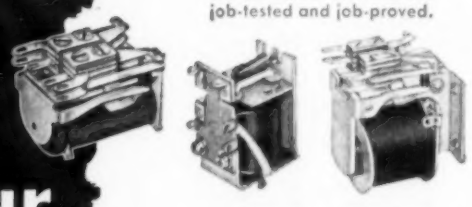
more relay for your money



Yes, you get more for your relay dollar from Comar. You get *top quality* relays, precision engineered for peak performance. You get *dependable* relays, job-tested and job-proved.



You get relays "*custom-manufactured*" to your specs. You get the *exact* characteristics, sizes and mountings to fit your needs. You get *fast* service. Complete manufacturing and sealing facilities are all coordinated in one modern plant. You save time and money.

Send For Details Now!

Comar ELECTRIC COMPANY
3349 ADDISON STREET
CHICAGO 18, ILLINOIS

RELAYS • SOLENOIDS • COILS • TRANSFORMERS • SWITCHES • HERMETIC SEALING

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Carbide grinding's "CROWN JEWELS"

For unbeatable economy in *your* carbide grinding, choose Norton diamond wheels. Backed by Norton's record of news-making "firsts" in diamond wheel progress, they're carbide grinding's recognized "Crown Jewels" — with a royal reputation for value!

It's the same in every other field — glass, ceramics, electronics, stone, etc. — where diamond wheels are used. Norton makes diamond wheels for best results in every application.

See Your Norton Distributor for quick deliveries of the diamond wheels that will help you cut production costs and improve product quality. Or write for booklet, "Grinding Carbide Tools" and the complete net priced Diamond Wheel Catalog to NORTON COMPANY, Worcester 6, Mass. *Export:* Norton Behr-Manning Overseas Incorporated, Worcester 6, Mass. W-1616

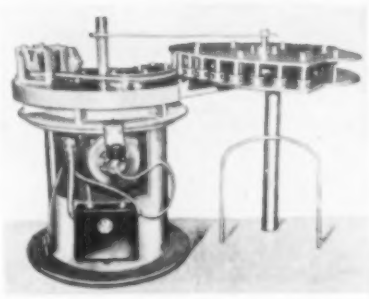
NORTON *Making better products... to make your products better*

and its **BEHR-MANNING** *division*

NORTON: Abrasives • Grinding Wheels • Grinding Machines • Refractories
BEHR-MANNING: Coated Abrasives • Sharpening Stones • Pressure Sensitive Tapes

▲ For more details circle **NED-457 D5** on enclosed inquiry slip ▲

PROFILE BENDER
handles pipe, tube, strips, shapes



Action of this production profile bender is combination of die type bender and roll bender. It operates without an air cylinder or similar fixture and is provided with an adjustable cam which wipes the piece into the die at the correct distance from point of bend. Machine is expected to form any shape up to 360 degrees, comprising simple or compound bends, with finished shape of a size not exceeding that of the rotating table. As this table has no standard size, almost any size up to about 6 sq ft can be produced. Pipe, tube, strips, shapes and bar stock can be handled. Machine uses no internal support during bending and can make four right angle bends with straight sections between. Made by **Pedrick Tool & Machine Co.**, Lawrence & Erie, Philadelphia 40, Pa.

▲ For more details circle **NED-458 D5** on enclosed inquiry slip ▲

PRESS BRAKES
6, 8 and 10-ft bed-capacity units bend 9, 11 and 12-gage materials

High torque motorized ram adjustment, 3-in. ram stroke, 5-in. ram adjustment, 9½-in. throat depth and 14-in. shut height are features common to all models of 55 series press brakes. Model 55-609 has 6-ft bed with bending capacity of 9-gage material; model 55-811 has 8-ft capacity of 11 gage; and model 55-1012 has 10-ft bed bending capacity of 12-gage material.

Forged alloy steel pitman screws are ball type with buttress threads. Antifriction and bronze bearings, disk type brake and clutch and heat treated forged alloy steel eccentric shafts are incorporated. Brakes are double-geared and twin driven for balanced distribution of power. Options include angle supports for bed and ram, micrometer screw adjustment, micrometer front-operating back gages, centralized oiling system, variable speed drive and tonnage indicator. Made by **Service Machine Co.**, 202 Miller St., Elizabeth 4, N. J.

▲ For more details circle **NED-459 D5** on enclosed inquiry slip ▲

Tells how to spot railroad cars... IN MOMENTS!

Get this 24-page **LINK-BELT** Book 2092

WHEN it's necessary to move railroad cars at a moment's notice, a Link-Belt Car Spotter can speed the job . . . save you money. Call just one man. With two or three quick turns around the motor-driven capstan, he can easily move up to six loaded cars. Decreased demurrage charges and fewer manhours are evident results. Available in two sizes with 5 or 10-hp integral or separate motors. Stationary or portable. LINK-BELT COMPANY, 307 N. Michigan Ave., Chicago 1, Ill. 19,751

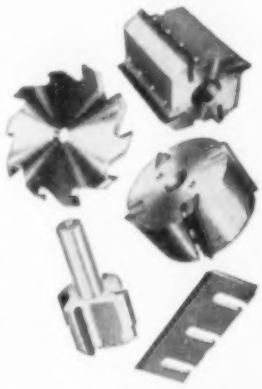
See any cost-saving possibilities for your plant?

▲ For more details circle **NED-460 D5** on enclosed inquiry slip ▲

"... OVER 800 HOURS OF EXCELLENT SERVICE"

"... ABOUT 30 TIMES THE NUMBER OF PIECES BETWEEN SHARPENINGS ..."

ENTHUSIASM....



Customer enthusiasm is natural for Meyco Carbide Tipped Sticker Knives, Cope Heads, Shapers, Moulders and Router Bits. Such carbide tipped cutters generate less heat than steel tools, are fed into the work easier and faster; they last an unbelievably longer time and produce smoother finishes often eliminating a sanding or polishing operation.

Write for Bulletin No. 39

Made to YOUR specifications! Inquiries welcome on the application and cost of Meyco carbide tipped cutters.

W. F. MEYERS CO., INC., BEDFORD, INDIANA

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Palm Coated with Plastic: This No. 30 Monkey Grip outwears canvas as much as 10 to 1, fits better, grips better.

Costs 40% to 70% less to protect hands with palm-coated gloves

Coated palms outwear canvas or leather palms. Fabric backs give comfortable ventilation.

NEOX No. 93

Handling sharp-edged materials, wet or dry: Palm-coated with NEOX (specially reinforced neoprene) which is unequalled for resistance to cutting and puncturing and does not absorb grease or oil. Job-fitted for handling such materials as strip and sheet metal.

Grappler No. 362

Handling abrasive materials, wet or dry: This Grappler glove is palm-coated with DUROX, a leather-like plastic that outwears ordinary plastics 50% and retains its grip when wet. Band top and knitwrist styles are also available in regular plastic coating. All Edmont plastic coated gloves have wing thumbs and best fit of any coated gloves.

Grab-it No. 62-W

Handling sharp, abrasive or slippery materials, non-oily: Grab-it type, palm-coated with rough-textured natural rubber which has remarkable non-slip grip, as well as long-wearing qualities on rough work. Available in knitwrist style, also.

Free Test Offer to Employers: Send brief description of your operation, materials handled and temperature condition. We will recommend the glove (palm-coated or fully coated) that best fits your application, and forward samples free of cost, for testing on-the-job. Our laboratory also develops special gloves for special applications.

Edmont Manufacturing Co., 1240 Walnut Street, Coshocton, Ohio

World's largest maker of coated industrial gloves, available through all leading industrial suppliers.

Edmont job-fitted gloves

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Clarke

cuts floor maintenance costs

Wet scrubbing at low cost with Clarke P-17 Floor Maintainer

Clarke floor machines cut physical effort and costs to a minimum. And — best of all — your floors are *clean, safe* and *bright.* For an unsurpassed cleaning team there's a Clarke floor maintainer and vacuum cleaner sized for your job and budget.

Your copy FREE! Write today for 22-page "Your Floors and How to Care for Them."

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Clarke Floor Maintainers: Strongridge Ltd. 124 Weston St., London, Ont.

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NOW Quick Change Tools... for SMALL MILLS...

★ 80% saving in down time
★ Only ½ inch tool clearance needed
★ Not necessary to move table when changing tools
★ Eliminates loosening and tightening draw bolt

Tools completely eliminate the time lost in changing conventional type tools... Complete sets are available, write for literature covering specifications and price. Representatives in principal cities

PORTAGE Double-Quick TOOL CO.
1043 SWEITZER AVENUE • AKRON 11, OHIO

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HOW TO INSURE TOP METALWORKING PERFORMANCE for only $1.00

Send for a trial order of **CMD ANTI-SCORING LUBRICANTS**

For top performance on lathe centers, grinding, press fit, stamping, die posts and many other operations—CMD ANTI-SCORING Lubricant can't be beat. It makes your operations smoother, faster, easier and of course more profitable. Prevents scoring, seizing, galling... all bugaboos in modern machining work. This trial order will start *you* on *your* way to top performance where a high pressure lubricant is needed. You will be surprised to find how long it lasts. Get yours today in both oil and grease consistencies.

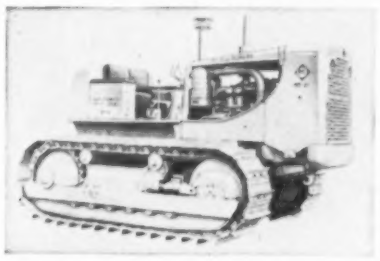
TRIAL ORDER—TWO FOUR OZ. TUBES $1.00

Send me my order of CMD Lubricants right away! { Bill me / Bill my company
Name
Company Name
Address
City State
Chicago Manufacturing and Distributing Company
1902 West 46th St., Chicago 9, Illinois

CHICAGO MANUFACTURING & DISTRIBUTING CO.

▲ For more details circle NED-465 D5 on enclosed inquiry slip ▲

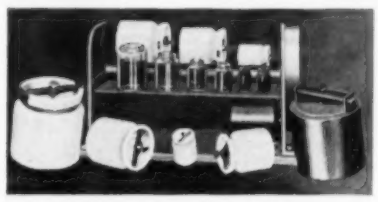
LARGE CRAWLER TRACTOR
torque converter gives smooth power



Weighing 44,000 lb and developing 204 hp at the flywheel, this model HD-21 diesel crawler tractor is designed to meet the changing demands of jobs that require exceptional power, long life and economy per unit of work. Torque converter drive coupled with redesigned engine and transmission provides ample speed and pulling power with any load, with wide speed ranges and range overlap. Other features are high-capacity cooling system, Tru-Dimension track, wrap-around radiator guard and hydraulic steering. Made by **Allis-Chalmers Mfg. Co.,** Tractor Div., 918 S. 70th St., Milwaukee 1, Wis.

▲ For more details circle NED-466 D5 on enclosed inquiry slip ▲

JAR MILL
handles 2-13 in. diameter containers



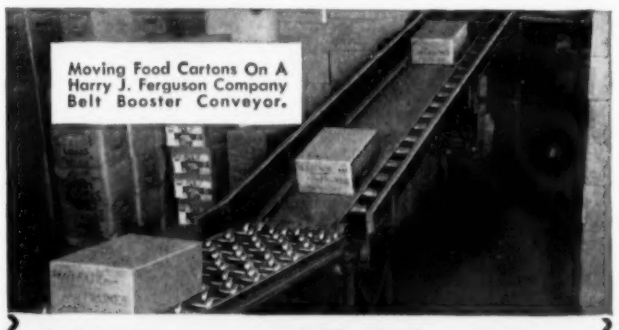
Containers varying in diameter from 2 to 13 in. can be run on this jar rolling mill. This wide range is made possible by movable idler roll. By lifting idler roll out of its notch, correct space for containers to be processed is readily secured. Both fixed and movable rollers are equipped with sealed ball bearings. Tray under the rolls is removable. Mill is made in 15 and 24-in. lengths by **Paul O. Abbe, Inc.,** 253 Center Ave., Little Falls, N. J.

▲ For more details circle NED-467 D5 on enclosed inquiry slip ▲

PRESSURE GAGE
measures up to 75,000 psi

Static and dynamic pressures and displacements can be measured under the most adverse temperatures and vibrations by the model DG-400 Dynagage. With its integral power supply, the electronic pressure gage has the features of the original instrument, but size and weight have been reduced 75 per cent. It is housed in a rigid aluminum casting and can be used with new series of pressure pickups for measuring pressures up to 75,000 psi. Frequency response is from 0 to over 20,000 cps. Cable lengths up to 1000 ft can be used. Made by **Photocon Research Products,** P. O. Box 485E, Pasadena 8, Calif.

▲ For more details circle NED-468 D5 on enclosed inquiry slip ▲


Moving Food Cartons On A Harry J. Ferguson Company Belt Booster Conveyor.

STOP steps...START profits...
USE
FERGUSON CONVEYORS

Take the right step to save steps in your plant. Use FERGUSON CONVEYORS to move parts, products or packages. You'll eliminate the unprofitable walk from place to place . . . inefficiencies . . . wasted time.

You'll like the convenience, economy and profits FERGUSON POWER & GRAVITY CONVEYORS will bring to your plant operations . . . as users everywhere do. You can see these conveyors at work in almost every industry.

It won't cost you anything to find out how FERGUSON CONVEYORS will work to your advantage. Write, wire or call today.

HARRY J. Ferguson COMPANY
133 West Ave., Jenkintown, Pa. Ogontz 4401

▲ For more details circle NED-469 D5 on enclosed inquiry slip ▲

Read how to STEP UP your TAKE-UP!

If your product can be traverse wound onto spools, tubes or cones, send for bulletin *"Precision Winding."* It tells you how Leesona Take-Up Machines produce precision wound packages — for sale or further processing — directly from production equipment, at the speed at which the material is fed. Materials taken up by these ultra-modern machines include:

Extruded plastics . . . tapes . . . glass yarn . . . nylon thread . . . narrow flat paper and cellophane.

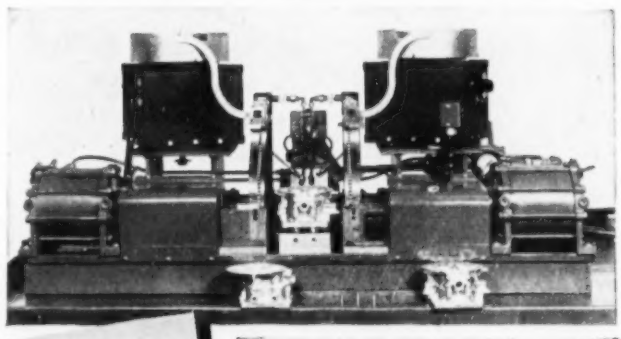
In these and many other applications, Leesona Take-Up Machines are protecting products, adding sales appeal — *and eliminating rewinding.* Send for these profit-boosting facts today!

UNIVERSAL WINDING COMPANY
P. O. Box 1605, Providence 1, R. I.
Boston • Philadelphia • Utica • Charlotte
Atlanta • Chicago • Los Angeles
Montreal and Hamilton, Canada

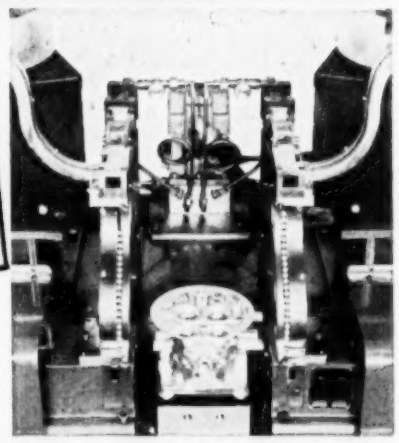
▲ For more details circle NED-470 D5 on enclosed inquiry slip ▲

4 to 1 PRODUCTION

4 to 1 Time Saving!...
4 to 1 Cost Reduction!...4 to 1 Labor Saving!
OVER PREVIOUS *Hand* PRODUCTION!



4 BRONZE BUSHINGS INSERTED INTO 4 BARREL CARBURETOR CASTINGS—



Using **DPS VIBRATORY BOWL FEEDERS**

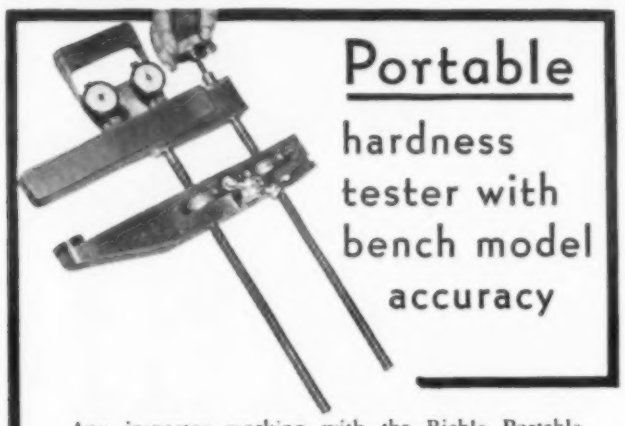
● The bushings are fed from two DPS Bowl Feeders and transferred into four opposed tracks, bringing the bushings into alignment . . . Operator simply places the castings over locating pins in the fixture and cycles the machine by means of a foot switch. Air actuated rams come forward, pick up two bushings on each side and press them to the proper depth with one stroke, previously an individual hand operation. Machine cycle, two seconds.

How about YOUR Assembling Method?

● DPS has solved this and thousands of other bottlenecks through the use of their POWER SCREWDRIVERS, PARTS FEEDERS and SPECIAL MACHINES. We can do the same for you. Tell us your problem.

DETROIT POWER SCREWDRIVER CO.
2819 W. FORT ST. DETROIT 16, MICHIGAN

▲ For more details circle NED-471 D5 on enclosed inquiry slip ▲



Portable hardness tester with bench model accuracy

Any inspector working with the Riehle Portable Hardness Tester can obtain the same Rockwell readings as with a bench-type model. In fact, one manufacturer of jet engine components checks hardness of every piece with Riehle portables *only*. Tests *must* be accurate or components could fail under operating conditions. Riehle portables weigh but a few pounds . . . accurately test inside and outside surfaces of parts inaccessible or otherwise difficult to test. • Rockwell scales: A, B, C, D, F and G. For specimens up to 12" diameter or thickness.

FREE BULLETIN — WRITE DEPT. NED-455

Riehle TESTING MACHINES
A DIVISION OF
American Machine and Metals, Inc.
EAST MOLINE, ILL.

▲ For more details circle NED-472 D5 on enclosed inquiry slip ▲

New Catalog of Precision RUBBER PARTS

. . . by Stalwart

If you have a rubber part problem . . . SEE STALWART FIRST! Here's a 16-page multi-colored and illustrated catalog that explains Stalwart's ability to mass-produce custom engineered rubber parts. Hundreds of rubber stocks are charted for physical properties as well as the extreme temperature resistant Silicones. Sections of catalog indicate methods of fabrication and indicate processes by which various parts should be produced for maximum performance at the most economical price.

Write today for catalog No. 51SR-1 for complete information.

5040-SR

STALWART RUBBER COMPANY
Mfg. Plants in Bedford, Ohio and Jasper, Georgia
Main Offices 151 Northfield Rd., Bedford, Ohio

▲ For more details circle NED-473 D5 on enclosed inquiry slip ▲

Which one cost $4,792.00 less to finish?

Look alike? Yes! — but what a difference in finishing costs. It cost a plumbing fixture manufacturer only $.0104 to finish the part below by Supersheen Speed Finishing. The part above cost $.25 to finish by former costly hand finishing methods. That's a saving of over 95% or $4,792.00 for 20,000 units. Supersheened finished parts maintained a much greater uniformity too.

WHAT IS YOUR FINISHING PROBLEM? Let us show you how Supersheen can save you a great deal of money. WRITE TODAY. Dept. N.

FREE
52 PAGE CATALOG OF MONEY-SAVING FINISHING FACTS, FIGURES, "BEFORE AND AFTER" PHOTOS. LEARN THE LATEST ON EQUIPMENT, COMPOUNDS.

ALMCO Supersheen
AMERICA'S LARGEST MANUFACTURER OF ADVANCED BARREL FINISHING EQUIPMENT – MATERIALS AND COMPOUNDS
ALBERT LEA, MINNESOTA

▲ For more details circle NED-474 D5 on enclosed inquiry slip ▲

HOIST LOAD CONTROL prevents damage from overload

Now available with a capacity of 20,000 lb, this Dyna - Switch prevents overload damage to costly hoisting equipment by cutting out the lifting power when the preset safety limit is reached. Attached between the load and the hoist, device actuates a sensitive Micro Switch whenever overload occurs. Accuracy is within ½-per cent. Calibration is unharmed by overloads of up to 70,000 lb. It is available for controlling either 110 or 220/440-v power. Made by **W. C. Dillon & Co.**, Dept. NED, 14620 Keswick Dr., Van Nuys, Calif.

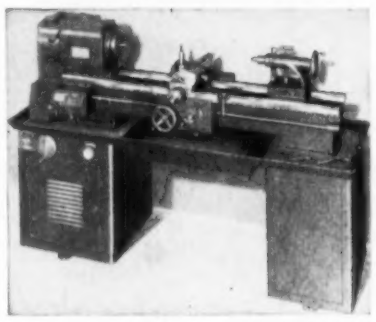
▲ For more details circle NED-475 D5 on enclosed inquiry slip ▲

STRAPPING DISPENSER powered unit has magnetic brake

Rapid banding of shipments is possible with this electrically operated steel strapping dispenser. Unit is equipped with a magnetic brake for instantaneous stopping and to prevent overruns. Available with or without a shear, the pushbutton operated dispenser is offered in three models for handling full coils of ¾, 1¼ and 2-in. steel banding. Dispensing rate is 250 fpm. Made by **Allegheny Steel Band Co.**, Dept. N, Box 716, Pittsburgh 30, Pa.

▲ For more details circle NED-476 D5 on enclosed inquiry slip ▲

14-IN. SWING LATHE has 38-1200 rpm drive speed range



Heavy headstock and wide machine-cut gears are incorporated in the No. 6560 lathe, hardened and ground spindle of which turns on double rows of large ball bearings. It is built with a variable speed drive with 38 to 1200 rpm range and has a 14⅝-in. swing over its bed, 9-in. swing over saddle, 1⅜-in. spindle hole, 1-in. collet capacity and 40 in. between centers. Alloy bed is 68 in. long and 10 in. wide. Suitable for tool room, production and maintenance work, lathe features double-walled apron and disk type clutch. Lathe and 2-hp motor are dynamically balanced at the factory. Made by **Logan Engineering Co.**, Lathe Div., 4904 W. Lawrence Ave., Chicago 30, Ill.

▲ For more details circle NED-477 D5 on enclosed inquiry slip ▲

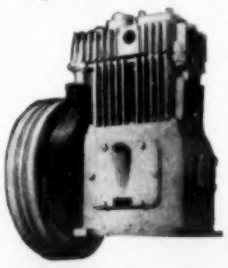
Drain Air Compressor Tanks AUTOMATICALLY

QUINCY DRI-R-AIR AUTOMATIC TANK DRAIN

With a Quincy Dri-R-Air Automatic Tank Drain you don't have to depend on manual draining. Dri-R-Air does the job automatically every time the compressor starts or stops.

Dri-R-Air tank drains can be installed on any compressor with bleeder or pressure unloader . . . or supplied with your new Quincy Compressor.

Write Dept. NE-41, Quincy Compressor Co., Quincy, Illinois, for information and prices.



Quincy COMPRESSORS
QUINCY COMPRESSOR CO., Quincy, Illinois
Makers of The World's Finest Air Compressors

▲ For more details circle NED-478 D5 on enclosed inquiry slip ▲

RECTIFIERS and DEMAGNETIZERS for MAGNETIC CHUCKS

Rectifier and demagnetizing switch combined in one compact unit. For 115-230 Volt Direct Current.

Easy to install.

A. C. voltage can be arranged to suit your needs—50/60 cycle operation.

All models have ON-OFF switch.

Also get details about Magna-Vise and Magna-Lock Sine Chucks.

MODEL	WATTAGE CAPACITY	PRICE
KD	50	$39.00
JD	100	67.00
YD	150	85.00

ORDER TODAY
Dept. ND-45
Prompt shipment.

Other models from 50 watts to 20,000 watts also available.

MAGNA-LOCK, INCORPORATED
BIG RAPIDS, MICHIGAN, U.S.A.

▲ For more details circle NED-479 D5 on enclosed inquiry slip ▲

NEVER BEFORE—such high capacity, trouble free AIR PUMPS in such small space!

LEIMAN INTEGRAL AIR PUMP and MOTOR

28" Hg. Continuous Vacuum
20 lbs. Pressure

The new Leiman Integral Rotary Air Pumps permit more compact design, plus the famous "lifetime" Leiman performance for your packaging, printing, feeding office, milking, feeding, aerating, chucking and other equipment. Features include steel blades with automatic wing adjuster—noiseless rubber mounting—ball bearings—fan cooling—automatic oiling—oil-free air—automatic thermal motor overload protection. Get full details.

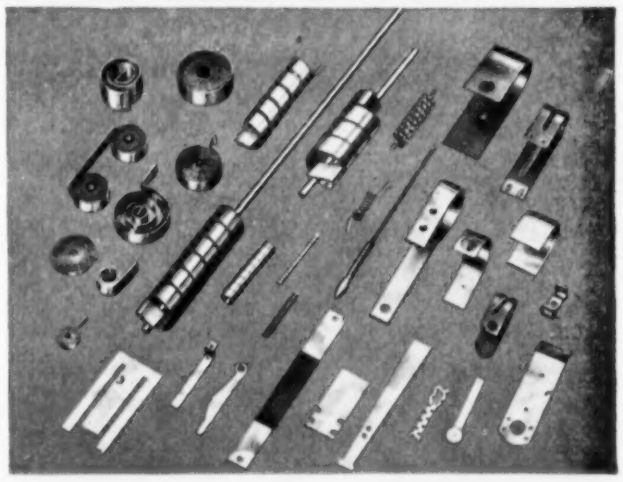
MODEL K
3.6 c.f.m. displacement
13½" long—12" wide
7" high

MODEL K-3
7.2 c.f.m. displacement
18½" long—15" wide
7" high

LEIMAN BROS., Inc.
167 Christie St., Newark 5, N. J.

WRITE for folder and prices giving full details. Also get 16-page catalog showing other types and sizes.

▲ For more details circle NED-480 D5 on enclosed inquiry slip ▲



Any way you Figure it...

GENERAL PLATE TRUFLEX®
Thermostat Metals and Assemblies
Add up to Performance and Economy

If your products require temperature control . . . indication or compensation, General Plate TRUFLEX thermostat metals and fabricated elements and assemblies give you reliable, accurate performance and at the same time *cut your costs.*

Here's why — Advanced General Plate production methods coupled with the best equipment available insure positive consistency in thermal and mechanical performance and maintain close dimensional tolerances. Every lot, whether it is 10 pieces or 10,000, is a duplicate of the original, thus eliminating rejects and costly adjustments in assembly.

General Plate TRUFLEX thermostat metal and assemblies are made to meet your specific requirements for temperature range, electrical resistance, corrosion resistance, etc. Write for TRUFLEX thermostat metal catalog and engineering assistance.

METALS & CONTROLS CORPORATION
GENERAL PLATE DIVISION
84 FOREST ST., ATTLEBORO, MASS.

▲ For more details circle NED-481 D5 on enclosed inquiry slip ▲

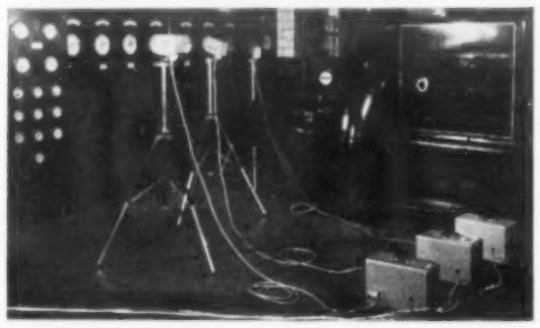
SPEED CONTROL WIDE RANGE! LOW COST!

Just off the press! New illustrated catalog describes SPEED SELECTOR'S new line of Variable Pitch Sheaves. These sheaves are for extra-wide range of speed control on fixed centers...also completely new designs for low speed applications. Save time, trouble, money...WRITE FOR CATALOG No. 44 TODAY.

SPEED SELECTOR INC.
118-N NOBLE COURT • CLEVELAND 13, OHIO
For more details circle NED-482 D5 on enclosed inquiry slip

INDUSTRIAL TELEVISION SYSTEM includes portable, high fidelity units

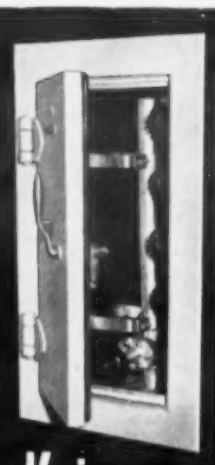
Designed expressly for industrial applications such as monitoring hazardous or difficult-of-access operations, this compact high-fidelity industrial television



system is easy to move, carry and set up. The basic closed-circuit system includes a camera equipped with a small highly-sensitive Resistron tube, a tripod, remote control box, control unit and one or more monitors. Resistron tube is relatively insensitive to high temperatures, is small enough to use 35-mm camera lenses and affords clarity of detail which drops off only 5 to 8 per cent at the edges. Developed by **Curtiss-Wright Corp.**, Wood-Ridge, N. J.

For more details circle NED-484 D5 on enclosed inquiry slip

Weathertight
Watertight
Insulated
Flush-Mounted
ACCESS DOORS by
Overbeke-Kain



3020-OK

Complete protection for equipment is assured by OVERBEKE-KAIN Access Doors. Special neoprene rubber gasketing provides positive seal . . . articulated hinge permits complete dogging on hinge side. Standard construction is heavy-gauge steel plate . . . stainless steel, aluminum or other non-corrosive materials available also. Doors can be furnished in sizes to meet all needs.

the Overbeke-Kain company

Write for Bulletin No. 784 for complete information.

MARINE PRODUCTS DIVISION
20979 Aurora Rd. • Bedford, Ohio
For more details circle NED-487 D5 on enclosed inquiry slip

BEST NEWs in 30 years!

ERIE PIPEMASTER

VISE and STAND

NEW PIPE VISE

Adjusts Automatically from 1/8" to 2-1/2" pipe with less than 1 turn of the screw!

CHECK THESE EXCLUSIVE FEATURES:

Fast, automatic adjustment* • Vertical pipe benders on 2 sides • 3-faced, long top jaw—triple jaw life • 2-faced, long bottom jaws

NEW TRIPOD VISE STAND

Including Automatic Adjusting Yoke*
Won't walk . . . rugged, fast-acting!

CHECK THESE OUTSTANDING FEATURES:

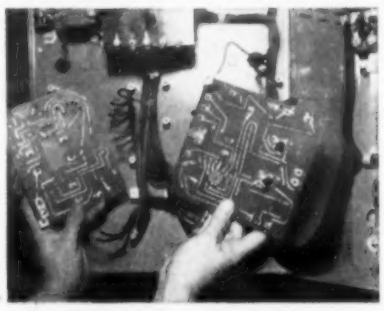
Large, hinged, malleable tray • Ceiling hold-down screw • Easy to fold and carry. *pat. pend.

All Parts of All Erie Tools are Job-Tested and Unconditionally Guaranteed

Look for Pipemaster's completely redesigned line of hand pipe tools — wrenches, cutters, vises, stands.

ERIE PIPEMASTER
ERIE TOOL WORKS
ERIE, PA., U.S.A.
For more details circle NED-483 D5 on enclosed inquiry slip

ADJUSTABLE SPEED DRIVES make use of printed circuits to reduce cost and maintenance



Only one miniature type control tube is used in new line of full-wave Thy-mo-trol electronic adjustable speed drives, instead of the three conventional-sized tubes used in previous models. Drives also incorporate printed circuits to realize maintenance simplification and cost reduction. Printboard panels can be visually inspected for circuit faults, as they actually are current-carrying diagrams.

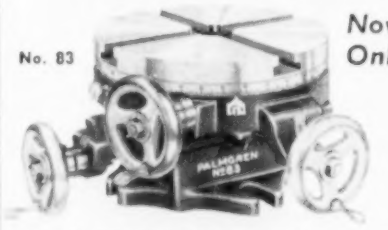
Design has isolated alternating current control circuits that allow interconnection with alternating current drives without use of additional relays. Printed circuit design is available in ¾ to 1-hp and 1½ to 3-hp ratings. Thy-mo-trol controls provide stepless speed control from an alternating current power source over an 8 to 1 speed range. Close speed regulation is maintained, regardless of changes in load or line voltage, and starting torque is limited to protect both drive and machine against overloads. Made by **General Electric Co.**, Schenectady 5, N. Y.

For more details circle NED-485 D5 on enclosed inquiry slip

PALMGREN

ROTARY, INDEX, MILLING TABLE
The Only Table Having Rotary Feed Combined with DUAL CROSS FEEDS!

No. 83



Now Only $69.95

Turns Your DRILL PRESS Into A VERTICAL MILLER

This PALMGREN TABLE is sensational in price, construction and performance. Just what shops need for accurate, precision work. You can mill straight or curved, slot, drill, also rout, rabbet, mortise and sand on wood. Do hundreds of jobs as milling slots, grooves, keyways, squares, hexagons, curves, flats, dovetails, indexing and laying out work.

Designed for use on Drill Press or Milling Machine. It handles all types of metal and woodworking operations and makes your drill press a vertical milling machine. Precision built. It permits close tolerances. Rotary Feed is calibrated in degrees. Cross Feeds in thousandths. Cross slides and feed are 2⅛" each side of center—4½" overall. Has Acme thread cross feed screws, adjustable gibs on cross slides—40 to 1 worm and gear ratio in rotary feed. 4 Bolt slots—2 lock screws.

No. 83 Table Dia. 8", T-Slots ⅝", Base Keyway ⅝", Base Dia. 6¼", Ht. 5", Wt. 37 lbs. Price Only $69.95

Order Today! Write for new Catalog No. 202

CHICAGO TOOL and ENGINEERING CO.
Mfrs. of PALMGREN PRODUCTS Since 1918
8378 South Chicago Ave. • Chicago 17, Ill.

For more details circle NED-486 D5 on enclosed inquiry slip

a FULLER BRUSH product

New Time-Saver for Engineers

YOURS FREE

Handy Fuller Slide Chart of Wheel Brush Specifications

Wheel brush selection with a flip of the wrist. No catalog searching . . . no comeback from "Purchasing" . . . You can even give them the stock numbers of:

FULLANCHOR
Super-Balance
WHEEL BRUSHES

Yours for the asking, without cost or obligation, simply by writing to . . .

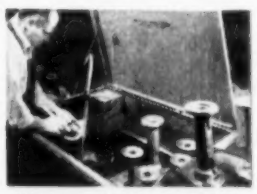
THE FULLER BRUSH COMPANY
3530 Main Street, Hartford 15, Conn.

a FULLER BRUSH product
For more details circle NED-488 D5 on enclosed inquiry slip

Safe, Low-Cost Parts Cleaning
Flush away oil, chips and grime in this

GRAYMILLS AGITOR
with "cold" non-toxic AGITENE

Let the AGITOR do the work—flip the switch. Clean, filtered, low cost Agitene flows from the flexible hose to clean dies, tools, bearings, motors and other parts. Saves time on production and maintenance jobs, too. Agitene is listed by UL. Send for new catalog giving complete details of machines and solvents.



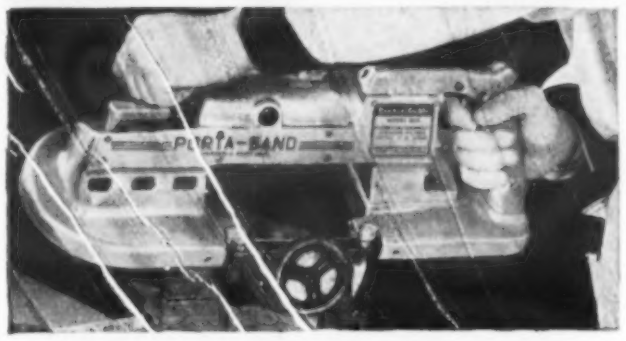
Pump castings are being cleaned in this Graymills Model H-81

Here a large Graymills Agitor is used to clean punch press dies

Valve bodies being cleaned in Model H-78

GRAYMILLS CORPORATION
3717 N. Lincoln Ave. Chicago 13, Ill.
WEST COAST: 4511 MELROSE AVENUE LOS ANGELES 29

For more details circle NED-489 D5 on enclosed inquiry slip



Now—cut metal 15 times faster than hand hack sawing!

Slice through 1½" cold-rolled steel in 41 seconds—through 3½" lead-sheathed copper cable in 90 seconds! This new *Portable* Band Saw is *fast—two and a half times faster* than bulky power hack saws!

It's light, compact—handles easily, goes anywhere there's a job to be done. *Continuous cutting action* delivers smooth, controlled sawing in any position, even in cramped quarters—on ferrous and non-ferrous metals, "problem" materials.

Saves its cost over and over—send now for complete specifications and performance data.

MODEL 524 PORTA-BAND — ONLY $215
WRITE TODAY FOR FULL INFORMATION

PORTER-CABLE Machine Company
5124 N. Salina Street
Syracuse 8, New York

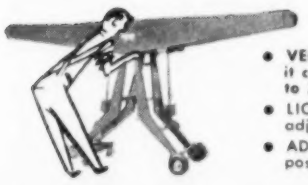
Porter-Cable
Quality Electric Tools

▲ For more details circle **NED-490 D5** on enclosed inquiry slip ▲

WORK BOTH ENDS FROM THE MIDDLE with the NEW SPEEDLIFT

Speedways new, versatile portable power belt conveyor

There's no trick to working both ends from the middle with the NEW SPEEDLIFT Portable Power Belt Conveyor. It's designed to do this amazing job . . . and to keep costs down because it is low-priced and designed for economy of operation. You'll shave costs everywhere . . . assembly line, production line and materials handling line.



- VERSATILE—either end elevates, or it can be used horizontally from 22" to 5 feet off the floor.
- LIGHTWEIGHT—one man can move, adjust, set up and store it.
- ADAPTABLE—can be used in any position from level to 30° incline.

Learn how versatile . . . yet amazingly inexpensive it is.
Write today for Bulletin F-11.

SPEEDWAYS CONVEYORS, INC.
202-208 Rhode Island Street, Buffalo 13, N. Y.
IN CANADA
Speedways Conveyors Ltd. 61 Walnut Street, Fort Erie, Ontario

▲ For more details circle **NED-491 D5** on enclosed inquiry slip ▲

This TUFFLEX sample kit MAY SOLVE YOUR PROBLEM

Seeing is believing—and this kit, containing actual samples of Tufflex may point the way to new product improvements and cost-saving for you. Tufflex is the amazing felted cellulose fiber that's fleecy, soft and tough at the same time. Tufflex resists heavy impact blows—die-cuts with clean edges—insulates—absorbs sound. Its wonderful flexibility suits it to a wide variety of uses. Send now for your free Tufflex sample kit and full information. Wood Conversion Company, Dept. 127-45, First National Bank Building, St. Paul 1, Minnesota.

Keep Your Eyes On . . . **TUFFLEX***

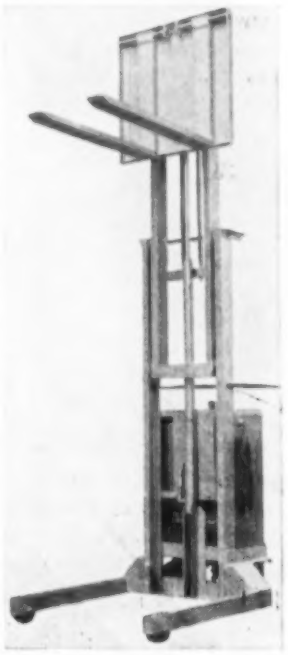
Guaranteed by Good Housekeeping

Cellulose Cushion Padding

*REG. U.S. PAT. OFF.

▲ For more details circle **NED-492 D5** on enclosed inquiry slip ▲

LIFT TRUCK
1000-lb capacity unit is electric



This model WLFT Worklifter is designed for materials handling operations requiring high lift in relatively narrow aisles. It is battery-hydraulic powered and has a telescopic frame which provides a maximum fork lift of 10 ft 4 in. Solid hard rubber base wheels are equipped with roller bearings for ease in movement. Two fixed wheels are 5-in. diameter and two swivel wheels, 8-in. diameter. Foot operated floor lock is mounted on base frame between the swivel casters. The two-button control station with up and down buttons is mounted on a 12-ft cord for operation from spot most convenient to operator. Take-up cable reel affords added ease of operation. Made by **Economy Engineering Co.**, 4511 W. Lake St., Chicago 24, Ill.

▲ For more details circle **NED-493 D5** on enclosed inquiry slip ▲

CAST IRON FANS
handle air, gas and bulk matter in severe industrial service

Completely redesigned series 500 cast iron fans for industrial applications will handle wood shavings, chips, granular material, textile fibers, rags and powders, as well as gases and fumes. Choice of four different wheels and three drive arrangements is offered. Protective accessories and coatings are available for high temperatures and extreme abrasion conditions. Wheel diameters range from 8¼ to 34½ in.; inlet pipe sizes, 4½ to 18 in.; and air volumes from 150 to 12,000 cfm.

Fan housings are convertible to all normal discharge directions and are also reversible. Large heavy duty shafts operate on grease-lubricated double-row ball bearings that are triple sealed against penetration by powdered material handled by fans. Special wheels of Everdur and stainless steel are available. Made by **Westinghouse Electric Corp.**, Sturtevant Div., Dept. 022, 200 Readville St., Hyde Park, Boston 36, Mass.

▲ For more details circle **NED-494 D5** on enclosed inquiry slip ▲

New Sturdy Folding Work Tables

IN ALL SIZES

SETS UP IN SECONDS!
STORES IN SECONDS!
Gives Work Space
Where You Need It
When You Need It

Have complete freedom of work area arrangement to adjust to constantly changing needs.

Whatever the production schedule calls for, wherever the job can best be done, set up an efficient work table arrangement in seconds.

UNLIMITED USES

Midwest's versatile Industrial Tables are ideal as work benches for light tools or machines. Unexcelled for assembly, inspection, packing and shipping.

Tops of thick plywood, tempered masonite, plastic or linoleum; steel channel reinforced. Legs of welded carbon steel tubing, guaranteed 5 years.

Write for complete specifications!

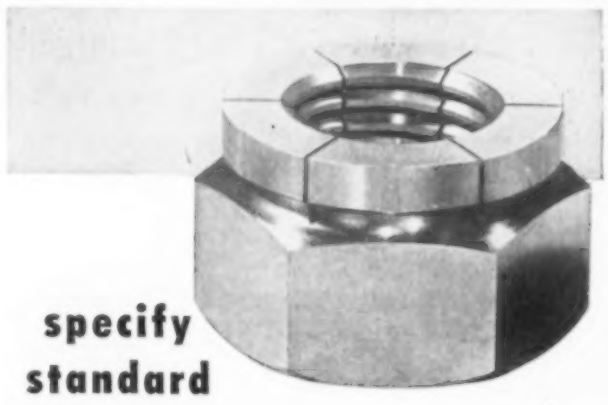
ADJUSTABLE LEG LENGTHS

PROVEN DURABILITY

Midwest Industrial Folding Tables are built to withstand the heaviest use. In tests conducted by the Pittsburgh Testing Laboratory, a five foot table was undamaged by a weight load in excess of 600 lbs. per square foot at midspan between the legs.

Midwest
Folding Products
Dept. 2054 Roselle, Illinois

▲ For more details circle **NED-495 D5** on enclosed inquiry slip ▲



specify standard

FLEXLOC® SELF-LOCKING NUTS

FLEXLOC DESIGN FEATURES
- one-piece, all-metal construction
- resilient locking segments
- lock and stop nut in one
- every thread carries its full share of load
- controlled locking torques

DO YOU KNOW? Because they are of one-piece, all-metal construction, FLEXLOCS can be used in temperatures to 550° F. Nuts lacking this design feature have more restricted temperature ranges and applications. And FLEXLOCS are stocked in a full range of sizes from #4 to 2" by authorized industrial distributors. Write for Bulletin 866. STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

FLEXLOC LOCKNUT DIVISION **SPS**
JENKINTOWN PENNSYLVANIA

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If you have a problem involving

Titeflex Flexible All-Metal Hose will solve it

Name the difficulty—critical temperatures and pressures, corrosive action, unwanted motion of *any* type—you'll find a Titeflex all-metal hose *specifically designed* to cure it, with features that may result in substantial maintenance or design savings.

- Seamed or seamless, braided or unbraided in a wide variety of alloys—with all types of fittings.
- Won't crack or corrode, bake or deteriorate under high temperatures and pressures.
- Absorbs vibration, takes continuous flexing movement and offset motion in all kinds of service.
- Applications almost unlimited. Titeflex design engineers ready to assist you.

Write today for free catalog.

Titeflex
Flexible Metal Hose

TITEFLEX, INC.
Industrial Products Division
507 Hendee Street, Springfield 4, Massachusetts

Please send Titeflex Catalog #200. No obligation, of course.

Name _____
Title _____
Firm _____
Address _____
City _____ Zone ____ State _____

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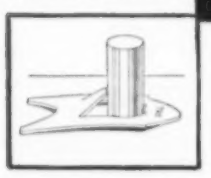
Cut Costs—Improve Fastening

of die-cast metal Nameplates, Medallions, Grilles, etc.

TYPE "F" for 3/32", 1/8" and 3/16" unthreaded studs

PUSHNUTS Trademark



Write for free samples and literature

THE PALNUT COMPANY
45 Cordier St., Irvington 11, N. J.
In Canada: P. L. Robertson Co., Ltd. Milton, Ont.

- **Easy, fast assembly.** Slide smoothly down the stud, then instantly lock with push of screw driver or special applicator—hand or power.
- **No stud damage.** Resilient locking tab does not grip stud until final locking action at base. Less strain on studs—no metal "shavings" to impair full resilient locking.
- **Lock absolutely tight**—even on slippery chrome plated studs. Energized spring locking grip can not loosen or rattle.
- **Can be removed.** Simply lift tab with any pointed tool. An important feature when necessary to remove defective or improperly assembled nameplates or for refinishing.

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cut equipment costs with exclusive

Strandflex 4 & 5 speed gear drive
FLEXIBLE SHAFT MACHINES

Put one motor to work for ROTARY FILING, GRINDING, BRUSHING, SANDING, DRILLING, POLISHING, BUFFING, CLEANING.

ONE *Completely Portable* COMPACT UNIT can be easily moved. In use, the operator lifts only the lightweight handpiece, not the heavy motor . . . changes tools with a simple PRESS-PULL-SNAP action. A FLICK OF A FINGER gives you any of 4 or 5 operating speeds up to 12,000 RPM. Gear Drive provides faster speed selection by eliminating countershafts, drive belts and pulley changes. Wider speed range lets you use Strandflex for more jobs, too.

NEW CATALOG describes FULL LINE of Strand Flexible Shaft Machines, including direct drive and countershaft models with up to 3 HP; also accessories and tools. See your distributor or write direct for Catalog C-210 F.

FRANKLIN BALMAR CORPORATION
N. A. STRAND DIVISION
Woodberry, Baltimore 11, Maryland
5001 N. Wolcott Ave., Chicago 40, Ill.

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Simplest to Install and Service!

Modernair Trademark

PROVENAIR Air and Hydraulic **CYLINDERS**

Here's why:

- Interchangeable mountings
- Heads rotate 360°
- Standard "O" ring seals throughout
- Corrosion resistant

MODERNAIR PROVENAIR cylinders are available in 2", 3", 4" and 6" bore sizes, any practical stroke length, cushion or non-cushion types. Operate to 400 p.s.i. in 2" and 3" bores, 200 p.s.i. in 4" and 6".

Why gamble when you can get PROVENAIR—the pioneer corrosion-resistant cylinder backed by more than 10 years successful use? Write today for new MODERNAIR catalog—most complete in industry!

6

Modernair CORPORATION
Trademark
Dept. B4. 400 PREDA ST. • SAN LEANDRO, CALIF.
Member of National Fluid Power Association

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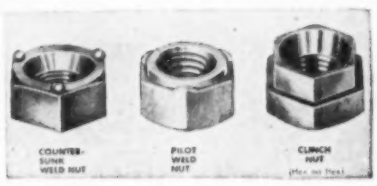
AIR-OPERATED RAM
pressures up to 1 ton obtainable

A power factor of 15 times air line pressure is featured by model 70 diaphragm-operated air ram. Extra heavy duty diaphragm, rigidly gripped between two ground iron surfaces, is 100 per cent leak-proof. Unit can be operated submerged in oils or solvents. Stroke is ⅝-in. with spring return, and threaded ram screw has 2½-in. adjustment. Any pressure up to 1 ton can be obtained when ram is used with pressure regulator. Made by **W. R. Brown Corp.**, 2673 N. Normandy Ave., Chicago 35, Ill.

▲ For more details circle NED-501 D5 on enclosed inquiry slip ▲

WELD & CLINCH NUTS
10-32 through ¼-in. sizes available

Both pilot type and counter-sunk Gripco weld nuts as well as hexagon pilot clinch nuts are now available in stainless steel. Nuts are offered with and without Gripco self-locking feature. Sizes available at present are 10-32 through ¼-in. fine and coarse threads. In the near future 5/16 and ⅜-in. sizes will be available in both fine and coarse threads. Made by **Grip Nut Co.**, 323-4 S. Michigan Ave., Chicago 4, Ill.



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LIQUID COOLER
for laboratory and production use

Liquid cooling in the range of −20 to 60° F, controlled to within ¾° F, is provided by this compact portable liquid cooler. In addition to recirculation of liquid to laboratory apparatus, unit also has a built-in brine tank for use as a bath. It is equipped with a ¾-hp Freon compressor, air-cooled condenser, 40 to 120 gph brine pump, 4-gal brine tank and a precision indicating type thermostat. Made by **Mayer Refrigerating Engineers, Inc.**, Dept. N, Lincoln Park, N. J.

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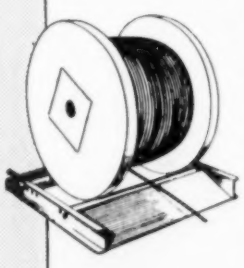
Simple as A B C

Handle heavy reels easily and safely; remove wire or cable from top or bottom, front or back of reel with



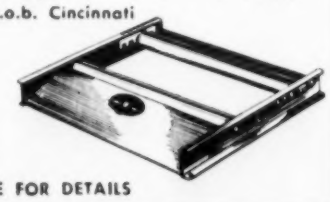
ROLL-A-REEL

Low slanted front and positive front lock insure quick loading or unloading.

Eliminate jacks and cumbersome handling.

Style A: 2,000 lbs. cap. 37.50
Style B: 4,000 lbs. cap. 75.00
f.o.b. Cincinnati

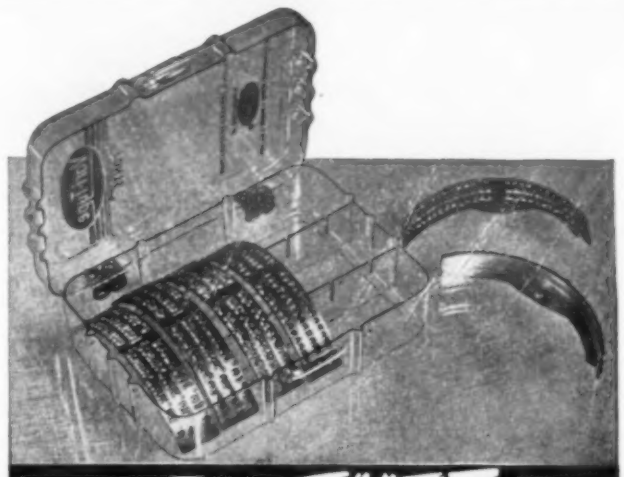
Carried easily to reels, job or storage.
Sold through wholesalers only.



WRITE FOR DETAILS

ROLL-A-REEL
1100 SYCAMORE AT CENTRAL PARKWAY
CINCINNATI 2, OHIO

▲ For more details circle NED-504 D5 on enclosed inquiry slip ▲



Lite-TUFF

PLASTIC BOXES THAT CAN TAKE ABUSE . . . made of Non-Flam* light weight plastic. Standard boxes available in a wide variety of compartment arrangements. Very tough will not crack or shatter in normal use. Resistant to most chemicals—samples supplied for tests.

Full information and PLOT PLAN SHEETS sent upon request . . . Dept. B-8

* Reg. U. S. Pat. Off.

SHOE FORM CO. INC. AUBURN, NEW YORK

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Now A REAL . . . HUSKY . . . FULL SIZE SPECIFICATION SWITCH BUILT TO DO A FULL SIZE JOB CONTINUOUSLY

P&S 20AC1

IF you need switches that can be used at full rated capacity on fluorescent and incandescent loads

IF you need switches that stand up under continuous heavy duty use

IF you want to cut down replacement costs on heavy duty circuits

YOU'LL LIKE THE WAY P&S A.C. SUPER SWITCHES HANDLE THE JOB

Both 15 and 20 Amp. types can be used on 120 V. to 277 V. fluorescent and incandescent loads at full rated capacity — can be used on motor loads up to 277 V. at 80% of switch rating.

Extra large silver alloy buttons will not oxidize under constant service, keeping temperature rise (common cause of switch failure) at a minimum.

Sturdy, totally-enclosed bodies — Easy back or side wiring — built "to take it." S.P., D.P. and 3-W, Ivory and Brown, 15 and 20 Amp. types, A.C. only.

For complete information write Dept. N

PASS & SEYMOUR INC. SYRACUSE, N. Y.
OFFICES: 71 Murray St., New York 7, N. Y.
1229 W. Washington Blvd., Chicago 7, Ill.

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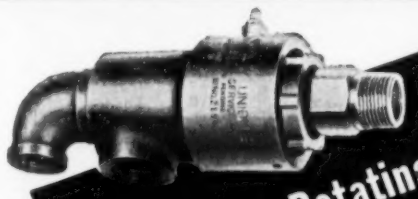

Type S ROTARY UNION

Wherever Rotating Equipment is Heated or Cooled

- Free Floating
- Self-Adjusting
- Self-Aligning
- Outlasts all others
- Permits Field Repair

Specify the ROTARY UNION*

Contact our nearest office or write Dept. 4D for Catalog.
*Trade Name — Patented

"Where *Good Connections* Count" ®

PERFECTING SERVICE CO.
(Home Office and Factory)
332 Atando Ave. Charlotte, N. C.

Chicago, Camden, N. J., Cleveland, Providence, New York, Montreal, Toronto

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SAVE UP TO 85% ON GOVERNMENT SURPLUS

MAGNI-FOCUSER

Has fine ground lenses of optical glass. Neutralizes eye strain from close work. Binocular design gives third dimensional vision. Allows freedom of both hands. Wear over glasses. Plastic frame with adjustable headband.

SIZES: 20" focal lgth. 1½ power – 14" focal lgth., 1½ power, 10" focal lgth., 2½ power; 8" focal lgth., 2½ power . . . . . price each ONLY 10.50

HYDRAULIC EQUIPMENT

We stock over 100,000 Hydraulic Cylinders in 106 different types and sizes. These can be adapted wherever tremendous power is needed to push, pull, hoist, mould or drive, etc.

SPECIAL

Gives 20,000 lb. thrust using 1500 PSI line pressure as obtained from our hydraulic pumps. Will produce up to 40,000 lb. thrust with 3000 PSI. Can also be used on a low pressure air system. Has 4" bore; 18" stroke; 38½" long. Ideal for shop. Part No. 29 USED 29.95 NEW 43.95

OTC TOOLS

See our complete line. Pullers for Gears, Bearings, Wheels, Pulleys, Bushings, Shafts, etc.

HYDRAULIC HAND PUMP

Operating pressure 1500 PSI. Cap., 1.5 cu. in per complete cycle . . . 12.75

NEW 10 TON HYDRAULIC PRESS

SIZE: 60" high 27" wide 29" base

Use this Press in the Shop or take it with you on the job. Frame is 4" welded channel iron. Has 4½" stroke, 2½" diam. ram. Valve operates piston in both directions. Adjustable platform. Positive power Hand Pump with handle. 2000 PSI pressure gauge. 129.00

ACCUMULATORS

A-2B FLOATING PISTON TYPE – 4"x 18" Built to stand 2,000 PSI 12.75

A-5 VICKERS – 10" dia. Ball type. Built to stand 2000 P.S.I. 24.50

NOTE: Stocks include bargains in Hydraulic Pumps – Valves – Motors – Boosters – as well as Oil, Water and Fuel Pumps, etc.

WORLD'S MOST AMAZING BARGAIN CATALOG

OVER 320 PAGES

Packed with SENSATIONAL VALUES in GOV'T SURPLUS – FACTORY CLOSE-OUTS – and GENERAL MERCHANDISE. Fully priced and illustrated. Thousands of items in Machine and Industrial Tools – Hydraulic Equipment such as Cylinders, Pumps, Valves, Motors, Fittings, etc. Bargains in Electric Motors, Generators, Blowers, Ports, etc. Also Hand and Power tools, Precision Instruments, Bearings, Hose Clamps, Winches, Foam Rubber, Microscopes, etc. ALL AT PALLEY BARGAIN PRICES – PRICED TO SELL!

Palley SUPPLY CO. 2263 E. VERNON AVE., DEPT. NED-4 LOS ANGELES 58, CALIF.

Pay by M.O. or check. P.O.'s accptd. from D&B firms. ½ deposit with C.O.D.'s. Prices FOB Los Angeles.

For more details circle NED-508 D5 on enclosed inquiry slip

TWO-STAGE CONTROL

TEMPERATURE OR PRESSURE

Mercoid DA-400 Series Controls are dual purpose controls (available for pressure or temperature) incorporating a single element operating two separate independently adjustable Mercoid magnetic mercury switches. Circuit arrangements can be supplied for various operations, a few examples are:

1. *Close one alarm circuit at high setting and a separate circuit at low setting. Both circuits remain open between the high and low operating points of the two switches.*
2. *As an electrical interlock to open one circuit on a rise above, and the second circuit on a drop below the set operating point.*
3. *To provide two-stage control by opening one circuit on a rise and a second circuit on a further rise.*

Pressure types available in 17 different operating ranges from 0-30" vac. to 300-2500 psi. *Temperature types* available in 11 operating ranges from -30-60°F. to 370-530°F.

WRITE FOR BULLETIN CA-PT

THE MERCOID CORPORATION, 4201 BELMONT AVE., CHICAGO, ILL.

For more details circle NED-509 D5 on enclosed inquiry slip

How SQUARE HOLED SLEEVES SPEED UP TOOL-MAKING!

Patents Pending

One of the most difficult problems in toolmaking can be solved easily and quickly with Sturdy Square Holed Sleeves. The perfection of broached square holes can be had in boring bars, milling cutters and many other applications at a small fraction of the cost of imperfect hand-made square holes. The Sturdy Square Holed Sleeve consists of a round sleeve with a perfectly square hole broached through the center. This hole is tapped at one end to receive a back-up screw which is furnished with the Sleeve. The Sleeve can be sweated or pressed into a drilled and reamed hole to make a perfectly square accurate hole in a very few minutes.

The Sturdy Square Holed Sleeve will save you many hours and many dollars in the making of boring bars, tool holders and other tools requiring square holes.

SLEEVES MADE IN FOLLOWING SIZES: 3/16, ¼, 5/16, ⅜, 7/16, ½, ⅝, ¾, 1"

Write for Literature

STURDY BROACHING SERVICE, INC.
23514 TELEGRAPH RD., DETROIT 19, MICH.

For more details circle NED-510 D5 on enclosed inquiry slip

ELECTRIC COUNTERS operate at 1000 counts per minute

Of improved design, Super-Wizard electric counters have an average life expectancy of 300 million counts. Though rated 1000 counts per minute, they will handle up to 1600 counts per minute when suitably actuated. Current draw is less than 5 watts, permitting their use in plate circuits of electronic tubes. Shock or vibration errors are eliminated by use of balanced armatures. They are available in Basemount, Panelmount and dustproof types for up to 230-v ac or dc actuation in four and six digit models with knob or key reset. Made by **Production Instrument Co.**, 700-12 W. Jackson Blvd., Chicago 6, Ill.

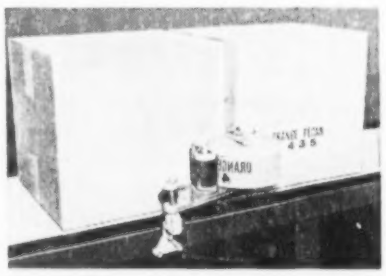
For more details circle NED-511 D5 on enclosed inquiry slip

AIR EXHAUST VALVE improves operation of cylinders

By providing fast venting of air from the return side, this Quick Exhaust valve improves the efficiency and operating speed of air cylinders. It is compact enough to be installed at the cylinder inlet. Finished in zinc and chromate plating, valve is offered with ⅜-in. pipe ports. Silencer is available at sight additional cost. Made by **Air-Mite Devices, Inc.**, 4417N W. Carroll Ave., Chicago 24, Ill.

For more details circle NED-512 D5 on enclosed inquiry slip

CASE MARKER attaches to conveyor or sealer



Code dates, lot numbers and similar changeable legends are imprinted on the sides of cases as they pass through a production or handling operation by model 113 Rolacoder case marker. It uses baselock rubber type or dies to print on corrugated and fiber cases traveling on a conveyor or through a case sealer to which unit is attached. Only one accurately positioned imprint is made on cases over 24 in. long. Spacing between cases need not be uniform. Made by **Adolph Gottscho, Inc.**, 6C Terminal Rd., Hillside 5, N. J.

For more details circle NED-513 D5 on enclosed inquiry slip

YOU CAN SET CUTS FASTER with MAXWELL-MADE E-Z SET BORING TOOLS

Maxwell E-Z Set Boring Tools can be adjusted faster for different diameters than similar tools. This is accomplished by simply rotating the precision calibrated micrometer-like dial which causes tool block to feed radially out or in, and provides boring accuracy to within .0002-inch.

3 POSITION BORING BAR PROVIDES MAXIMUM CAPACITY

Maximum safety of operation and ease of handling is assured by smooth circular shape. Interchangeable shanks facilitate use of E-Z Set Boring Tools in turret lathe, jig bore, milling machine, boring mill, automatic or other machine tools. Three types are available having maximum boring bar capacities of ½", 1" and 1½", and covering a boring range from ⅜" to 20".

WRITE TODAY FOR E-Z SET BORING TOOL CATALOG

393R-MC

THE MAXWELL COMPANY
390 BROADWAY • BEDFORD, OHIO

For more details circle NED-514 D5 on enclosed inquiry slip

Precision Model

Standard Model

makes the Solid Arbor obsolete

CHAMPION E-X-P-A-N-D-I-N-G MANDRELS

The expanding sleeve, mounted on tapered arbor, expands automatically to fit the hole. Inserted by hand — no arbor press needed. Always an exact, positive, concentric fit. Locked by a single mallet blow. Unlocked the same way. CHAMPION Expanding Mandrels are used in machine shops around the world. Save time, cut production costs, whether the job calls for machining one piece or a thousand.

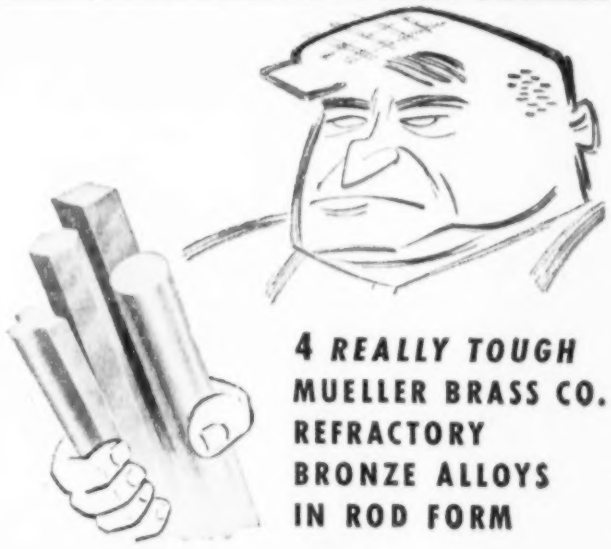
Precision Model has expansion range of .010". Available in regular sizes to fit holes from ½" to 3" diam. Holds work to tolerances of .0002" run-out. Guaranteed for precision grinding, turning and milling operations.

Standard Model maintains close tolerances, handles material of any length bore, hard or soft metals — from thin tubes and bushings to heavy castings and forgings. A set of fourteen will fit every hole from ½" to 9½" diam.

CHAMPION *Expanding Mandrels can be made in special shapes and sizes to fit any specifications. Quotations on request. Write for descriptive folder today.*

WESTERN TOOL & MFG. CO., INC.
Our 54th Year • Dept. 29 • Springfield, Ohio

For more details circle NED-515 D5 on enclosed inquiry slip



4 REALLY TOUGH MUELLER BRASS CO. REFRACTORY BRONZE ALLOYS IN ROD FORM

"TUF STUF" ALUMINUM BRONZE
"600" SERIES BEARING BRONZE
MANGANESE BRONZE
ALUMINUM SILICON BRONZE

These four Mueller Brass Co. alloys have been specifically formulated to meet the demands of applications where manufactured parts must stand up under the most adverse operating conditions. As specialists in brass and bronze alloys, the Mueller Brass Co. can offer you the exact alloy best suited to meet the requirements of any application problem. Write us today for details.

155

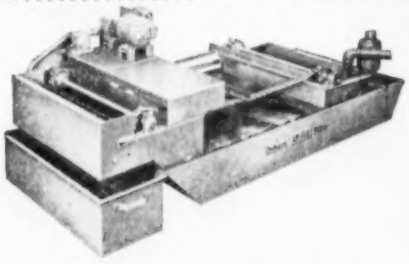
MUELLER BRASS CO. PORT HURON 27, MICHIGAN

For more details circle NED-516 D5 on enclosed inquiry slip

Filters Fine Solids...

Delpark UP-FLO Filter

WITH PERMANENT FILTER MEDIUM



• High Efficiency • Full Flow
• Fully Automatic • High Capacity • Self Cleaning
• Basic Gravity Principle

This newest of the famous Delpark line filters unbelievably fine particles from liquid. From fine graphite to coarsest particles removed in one operation. Filter efficiency is never impaired. Continuous operation is assured from high capacity, full flow filtration. All sizes, flows and capacities available. *Write for more complete information.*

Backed by more than 40 years experience in Industrial Filtration

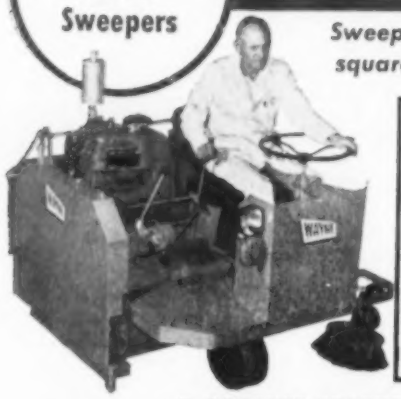
INDUSTRIAL FILTRATION COMPANY
14 INDUSTRIAL AVENUE · LEBANON, INDIANA

For more details circle NED-517 D5 on enclosed inquiry slip

New WAYNE Power Sweepers

pays for Itself Every Six Months or Less!

Sweeps over 100,000 square feet per hour



Wayne Power Sweeper will pay for itself every six months . . . if you spend $50 a week on plant housekeeping. If you spend $200 per week, Wayne will pay for itself every six weeks!

7 QUALITY FEATURES

1. 20-Inch Curb Broom sweeps closer. 2. Largest Hopper Capacity 3. "Filter-Vac" Dust Control keeps air clean. No dust bag to empty. 4. Sweeps over 100,000 sq. ft. per hour. 5. Hydraulic Dumping. 6. Turns in own length. 7. Sweeps to 10 mph.

WAYNE

For information, write: Wayne Manufacturing Co. 1212 E. Lexington St. Pomona, Calif.

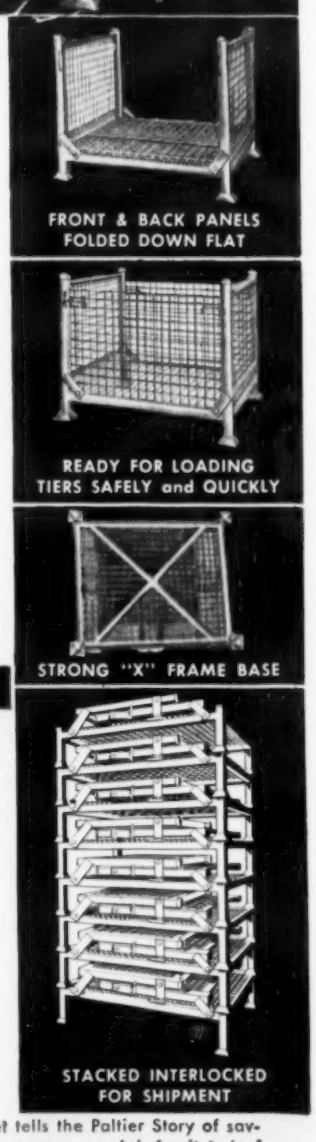
Dealer Inquiries Invited

World's leading producer of power sweepers for cities and industry

For more details circle NED-518 D5 on enclosed inquiry slip

FOLDING SHIPPING BOX

Paltier FOLDING BOX



- Designed to outlast and outperform ordinary wire containers.
- Here at last is the KD Shipping Container American Industry has desired. It combines the structural strength of the steel tubular rack with all of the best features of the wire mesh container to make the most durable shipping and stacking unit ever built.
- The "X Frame Base" provides entry from all sides plus the utmost in rigidity. The entire unit folds down interlocking to make a tier of 8—only 83½" high—for storage and/or return shipment.

ADDITIONAL FEATURES

Wire Mesh 2 x 2 x 2 Panels and Deck, Nesting Pyramids Permit Safe, Quick Stacking, Open or Folded. The Most Economical Folding Box to install and maintain. All Panels and Sides Replaceable.

AVAILABLE IN TWO STANDARD SIZES
40" x 48" x 24" and
32" x 40" x 24"

TWO-TON Capacity.
Other Sizes and Capacities Upon Request.

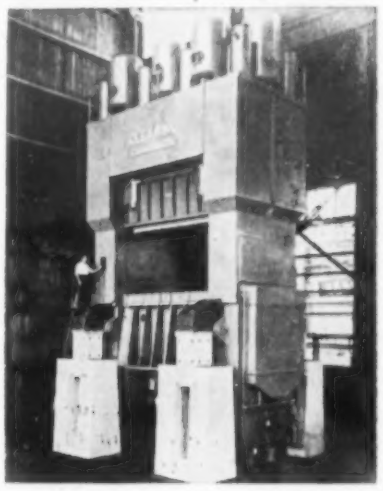
Immediate Shipment

This booklet tells the Paltier Story of saving storage space. . . . Ask for it today!

THE PALTIER CORP.
1705 Kentucky St., Michigan City, Ind.

For more details circle NED-519 D5 on enclosed inquiry slip

DEEP-DRAWING PRESS combines high and low-speed cycles

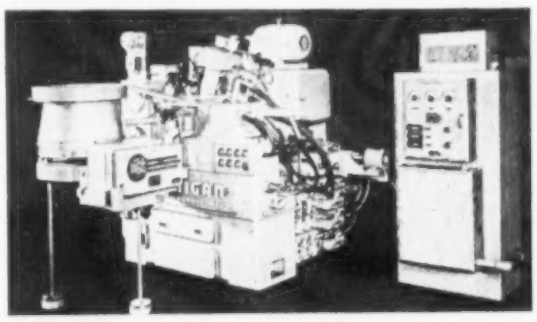


Production of deep-drawn stampings is speeded up by this Clearomatic press. Both mechanical and electrical methods are employed to speed up the portions of the press cycle not directly involved in the draw. Fast cycling rate is obtained by a system of planetary gears in the press clutch. Press approaches the work and returns to top stroke at unusually high speeds. Drawing portion of stroke is accomplished at speeds usually slower than normal in conventional draw presses. Actual full cycle time is roughly half that of standard presses. Made by **Clearing Machine Corp.**, Dept. NED, 6499 W. 65th St., Chicago 38, Ill.

For more details circle NED-520 D5 on enclosed inquiry slip

AUTOMATIC HOBBING MACHINE produces both helical and spur gears and monitors their size during cycle

Automatic production of helical or spur gears within controlled specified size limits is performed by this 1445 high speed hobbing machine. Blanks are placed



in hopper-type loader and emerge as accurate size gears, with tolerances checked during 100 per cent of the production cycle by 3-way Gear Classifier. Any variation caused by tool wear is picked up by Classifier and proper signal relayed to gear controller.

Gear controller automatically adjusts hobber's center distance; keeps statistical record of production and number of rejects; and shuts down "production line" when total predetermined gear production is reached, or if helix angle does not meet specifications. Gears are checked for undersize, oversize, correct size, eccentricity and plus or minus helix angle. Scrapping is almost completely eliminated. Made by **Michigan Tool Co.**, 7204 E. McNichols Rd., Detroit 12, Mich.

For more details circle NED-521 D5 on enclosed inquiry slip

THE Quick Way TO ACCURATE VISCOSITY MEASUREMENT CONTROL STUDY

Yes, the new Brookfield booklet shown above contains the answers you've been looking for. Its 20 pages, packed full with the latest "how-to-do-it" information, could only have been prepared by the world's leading manufacturer of viscometers — *are the condensation of 15 years of specialized work on all sorts of rheological problems.* Send for your free copy today. No obligation of any kind, of course. Don't delay. Write Dept. O.

WITH A Brookfield SYNCHRO-LECTRIC VISCOMETER

. . . you make determinations directly in centipoises — as quickly and easily as taking temperature readings. Availability of single and multi-speed models, and special accessories, has made Brookfield Viscometers the standard the world over for accurate work with both Newtonian and non-Newtonian materials. Effective range: 1 to 32,000,000 CPS.

BROOKFIELD ENGINEERING LABORATORIES, INC.
250 Cushing Street, Stoughton, Mass.

For more details circle NED-522 D5 on enclosed inquiry slip

ROCKFORD

FOR USE WITH PULLEY SPROCKET OR DRIVING CUP

COMPACT DESIGN · POWERFUL PULL · SMOOTH ENGAGEMENT · UNIFORM PRESSURE · FINE ADJUSTMENT · ACCURATE BALANCE · LONG SERVICE LIFE

* The toggle action goes "over center", locking the clutch in driving position, providing powerful pull. Operating pins, links and collars are hardened steel. The strong, symmetrical body is accurately machined, as are the release sleeve and bearing.

Send for This Handy Bulletin

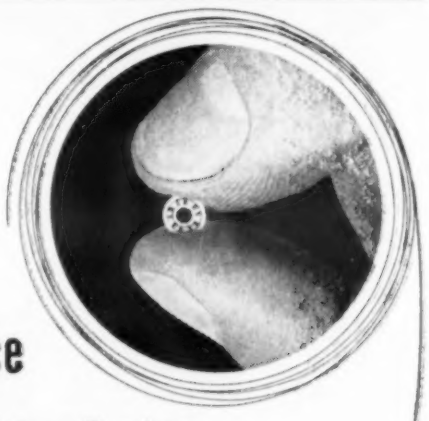
Shows typical installations of ROCKFORD CLUTCHES and POWER TAKE-OFFS. Contains diagrams of unique applications. Furnishes capacity tables, dimensions and complete specifications.

ROCKFORD CLUTCH DIVISION BORG-WARNER
319 Catherine Street, Rockford, Illinois, U.S.A.

CLUTCHES

For more details circle NED-523 D5 on enclosed inquiry slip

Draw on this fine wire experience



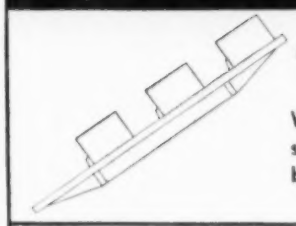
for your Miniature Bearings

At Webb Wire, 19 men spend their time drawing fine wire . . . checking the "little things" like tolerance, size and finish . . . to give you trouble-saving quality and uniformity. These 19 men have a total of 336 years' experience in fine wire making. Put this experience to work on your own stainless wire needs for miniature bearings and other uses. Work with Webb specialists for *fine* wire from *specialty* steel.

WEBB WIRE DIVISION
The Carpenter Steel Company New Brunswick, N. J.

For more details circle NED-524 D5 on enclosed inquiry slip

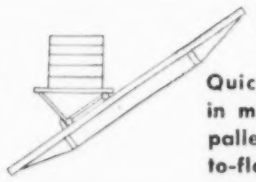
WEHLE all steel SPACE-SAVER FLOOR-TO-FLOOR CONVEYORS



CARTON & PACKAGE TYPE

Will operate in limited space. Positive action — no belts. Takes less floor area.

CONVEYORS

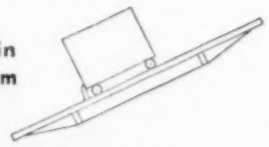


PALLET TYPE

Quickest method in moving loaded pallets from floor-to-floor.

HAMPER TYPE

Conveys merchandise in hampers with wheels from floor-to-floor. Fast.



For further information and specifications, write today. No obligation, of course.

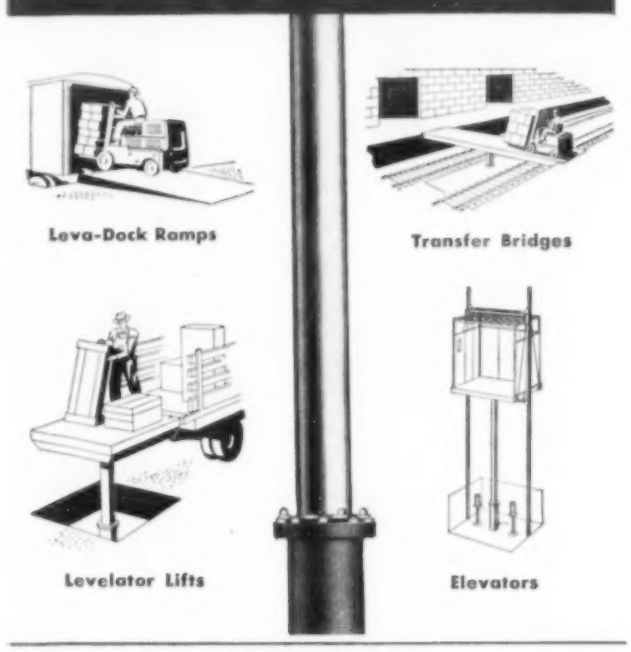
WEHLE CONVEYOR COMPANY
201-203 WATER STREET · BINGHAMTON, N. Y.

For more details circle NED-525 D5 on enclosed inquiry slip

Rotary®

OILDRAULIC® POWER

Cuts the cost of lifting heavy loads

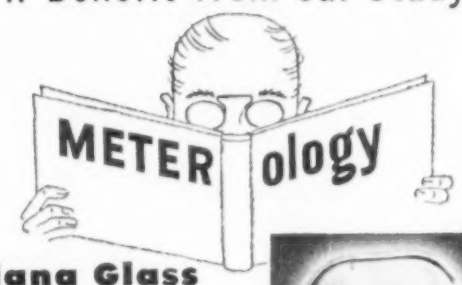


Write for catalogs

ROTARY LIFT CO., 1072 KENTUCKY, MEMPHIS 2, TENN.

▲ For more details circle NED-526 D5 on enclosed inquiry slip ▲

You'll Benefit from our Study of



Indiana Glass Meter Covers Meet Every Requirement

MATERIALS: lime or borosilicate glass.

SIZES: variable sizes or shapes available to meet your specifications.

CLARITY: permits easy visibility.

DURABILITY: withstands changing weather conditions.

MOISTURE AND VAPOR PROOF: necessary qualities for good performance.

ACCURACY: will not swell or shrink.

Indiana GLASS

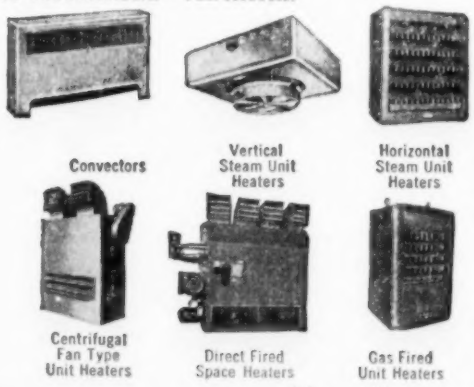
INDIANA GLASS COMPANY
Dept. N-4, Dunkirk, Indiana

▲ For more details circle NED-527 D5 on enclosed inquiry slip ▲

Airtherm HEATING EQUIPMENT

The Airtherm line of heating equipment has an outstanding performance record in installations throughout the country.

Eye-pleasing, easy-to-install Airtherm units eliminate service call worries. You'll find your customers are proud to own . . . glad to recommend—Airtherm.



Ask your Wholesaler or write for catalogs and complete information.

FOR HEATING SATISFACTION . . . THINK FIRST OF

Airtherm MANUFACTURING COMPANY
716 South Spring Avenue • St. Louis 10, Missouri

▲ For more details circle NED-528 D5 on enclosed inquiry slip ▲

MAGNETIC GRATE
overall magnetic intensity increased

Redesigned tubes in the Grate Magnet increase overall magnetic intensity in area immediately between the tubes by 15 per cent. Tests indicate that it will remove 93 per cent of 100-200 mesh iron contamination from free-flowing material. Grate is intended for handling material such as powdered chemicals and drugs from which stray ferrous particles must be removed. Alnico V magnetic element, encased in stainless steel tubes, aligns iron accumulation parallel with tubes, preventing choke-ups and the possibility of tramp iron being brushed off by subsequent flow of materials. There are available 162 standard sizes from 2½ x 4 in. to 36½ x 36 in. Made by **Eriez Mfg. Co.**, 1325 E. Twelfth St., Erie, Pa.

▲ For more details circle NED-529 D5 on enclosed inquiry slip ▲

DIGITAL COMPUTER
utilizes 50 basic commands and has 4000-word storage capacity

Decimal system is used by the Readix general purpose digital computer, a single address machine with magnetic storage capacity of 4000 words. Each word consists of 10 decimal digits with sign, or two commands, complete with address. Decimal system, being compatible with standard arithmetic systems, simplifies coding of automatic internally programmed machines.

Machine utilizes over 50 basic commands to solve, by means of internally stored routines, any problem which can be reduced to arithmetic. Addition, subtraction, multiplication, division and square root are performed by a single command and alphabetical material can be stored and sorted.

An electric typewriter is provided for data input and output. Automatic punch card machines, photoelectric tape readers, magnetic tape or other data-handling equipment can be adapted to the machine. Made by **J. B. Rea Co.**, 1725 Cloverfield Blvd., Santa Monica, Calif.

▲ For more details circle NED-530 D5 on enclosed inquiry slip ▲

NEW LIGHTWEIGHT

HYDRAULIC BENDER

BY GREENLEE

advanced-type construction for easy portability, extra versatility, assured uniformity!

Here's the kind of real portability you've been looking for in a bender for ½" to 2" pipe and conduit. Using light, but strong, aluminum alloy for many parts the new GREENLEE No. 880 Hydraulic Bender is unusually *lightweight*, yet extra rugged, fast, *powerful!* One man can easily carry and operate it to quickly make *uniform* bends. Complete 90° bends can be made with one ram stroke! Separate two-speed hydraulic hand pump and ram simplify handling and setup. Easily operated by hand or can be used with a power pump. Attachments also available for bending thin-wall conduit, tubing, bus-bars. Get complete details, write for Bulletin E-217.

TOOLS FOR CRAFTSMEN GREENLEE

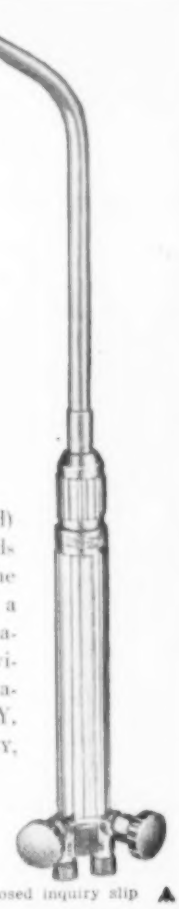
GREENLEE TOOL CO., 1944 HERBERT AVE., ROCKFORD, ILL.

▲ For more details circle NED-531 D5 on enclosed inquiry slip ▲

HERE'S WHY

PUROX® Trade Mark

BLOWPIPES *COST SO LITTLE TO USE AND MAINTAIN*



SELF-SEATING VALVES
Reseat scored valves when turned tight.

RUGGED HANDLE ASSEMBLY
Built for long, trouble-free service.

SLIP-FIT "O" RINGS
Perfect gas seals every time.

MIXER IN EACH HEAD
Resists backfires, eliminates burnouts.

SWAGED, PURE COPPER TIPS
Heads snap in handle. No wrench needed.

The Purox W-202 blowpipe (illustrated) is available with 13 standard welding heads and 3 multiflame heating heads, all of the snap-in type. Ask your LINDE jobber for a demonstration or write for further information. LINDE AIR PRODUCTS COMPANY, a Division of Union Carbide and Carbon Corporation, 30 E. 42nd St., New York 17, N. Y. In Canada: DOMINION OXYGEN COMPANY, Toronto.

get it from your LINDE jobber

The terms "Purox" and "Linde" are registered trade-marks of Union Carbide and Carbon Corporation.

▲ For more details circle NED-532 D5 on enclosed inquiry slip ▲

Functional Ranges

for wide measurement needs

New

WESTON (Model 980)

Volt-Ohm-Milliammeter

RANGES:

D-C Volts: 1.6, 8, 40, 160, 400, 1600 (20,000 Ohms/Volt)
A-C Volts: 1.6, 8, 40, 160, 400, 1600 (1,000 Ohms/Volt)
DB Range: −15 db to +54 db (in six ranges)
D-C Milliamperes: 8, 80, 800
D-C Microamperes: 80
D-C Amperes: 8

OHMS RANGE	CENTER SCALE	FULL SCALE
R x 1	25	1,000
R x 10	250	10,000
R x 100	2,500	100,000
R x 1,000	25,000	1 megohm
R x 10,000	250,000	10 megohms

Accuracy 2% d-c, 3% a-c
Scale length 4.63"—size 6¼" x 7½" x 3¼"
Weight 2 lbs., 11 oz.

Complete literature on Model 980, and other WESTON test equipment available on request. WESTON Electrical Instrument Corporation, 614 Frelinghuysen Avenue, Newark 5, New Jersey 8104

At leading Distributors

WESTON *Instruments*

▲ For more details circle NED-533 D5 on enclosed inquiry slip ▲

Replace Your Hammers with Air Power!

Cut Cost . . .
Speed Up Hammer and Tool Operations with the

BIG BULLY AIR HAMMER

This 6 inch, 50 ounce Big Bully has Superior's exclusive metering trigger which delivers 0 to 9000 blows per minute.

14 Tools Available for 100 Different Jobs

Each tool designed specifically for use with the Big Bully. Blanks available for use in making tools of your own design.

- Scaling Tool
- Routing Chisels
- Flat Chisel
- Peening Tool
- Finishing & Forming Tool
- Star Drills
- Oil Grooving Chisel
- Sheet Metal Cutter
- Panel Cutter
- Spoon Face Chisel
- Gouge
- Wood Chisel
- Wedge Driver
- Paint Scraper

Write for further information to . . .

SUPERIOR PNEUMATIC & MANUFACTURING, INC.

Main Office & Factory, 4758 Warner Rd., Cleveland 25, Ohio — West Coast Office, 15615 Arrow Highway, Azusa, California — Canadian Office, 347 Cannon Street, East Hamilton, Ontario

▲ For more details circle NED-534 D5 on enclosed inquiry slip ▲

SIMPLIFY handling of corrosive chemicals

OFFERS MANY ADVANTAGES OVER MECHANICAL PUMPS . . .

Low initial cost with practically no maintenance and noiseless efficiency for long operating periods makes Penberthy ejectors worth investigating. Model shown, of inert USCOLITE*, is hydraulically operated for liquid transfer, mixing and blending, pumping gases, removing gas or vapor, aerating liquids. Catalog 512 shows complete line. Engineering service available. Write for facts.

PENBERTHY INJECTOR COMPANY
Division of THE BUFFALO-ECLIPSE CORPORATION
1242 Holden Avenue Detroit 2, Michigan

There's Certain Satisfaction in PENBERTHY **products**

▲ For more details circle NED-535 D5 on enclosed inquiry slip ▲

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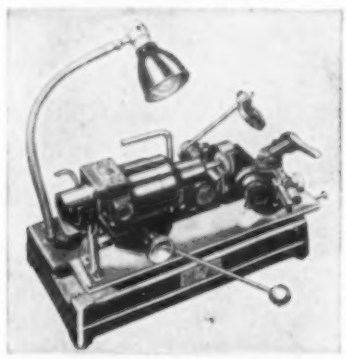
DRILL GRINDER
handles No. 70 to ¼-in. drills



Two-lip right hand drills can be sharpened in a matter of seconds on the improved series 21 drill grinder. A portable machine for use on small bench or table, it weighs 40 lb and accommodates drill sizes from No. 70 up to ¼-in. diameter. They can be ground to point angles from 90 to 150 degrees. Clearance angles can be from 5 to 15 degrees. Easily operated grinder has a 1/5-hp ac-dc universal motor, a 2-in. dual-grit grinding wheel, web-thinning wheel, roughing wheel, magnifying glass, diamond wheel dresser and adjustable spotlight. Made by **Dumore Precision Tools,** 1333 Seventeenth St., Racine, Wis.

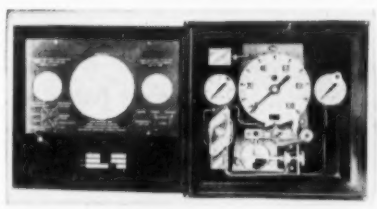
▲ For more details circle NED-537 D5 on enclosed inquiry slip ▲

AIR-COOLED CONDENSER
for air conditioning systems

Available in 2, 3, 5 and 7½-ton models, Atmos-Therm air-cooled condensers eliminate need for cooling water in small industrial and commercial air conditioning systems. Compact units can be placed in top of flat roofs or installed in yard. Coils have copper tubes and aluminum fins, with all headers and return bends protected and located in air stream. Weatherproof casing is steel, and totally-enclosed motors are used. De-superheat section in the coil promotes efficient heat transfer to change hot gas into liquid. Balanced fan operates quietly. Made by **Rempe Co.,** 360 N. Sacramento Blvd., Chicago 12, Ill.

▲ For more details circle NED-538 D5 on enclosed inquiry slip ▲

PRESSURE PILOT
has self-contained pressure gage

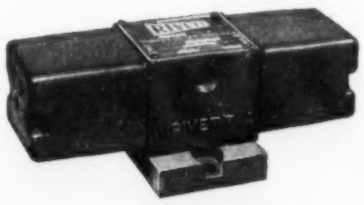


Unitized construction to overcome need for field calibration and maintenance problems is featured by model 54 pressure pilot having a self-contained controlled pressure gage. Changing from proportional to differential gap control, or from direct to reverse action involves only shifting turret-type nozzle from one preset position to another. Both proportional band and differential gap are adjustable from 1 to 100 per cent by turning calibrated dial. All-metal relay, pneumatic feedback synchronization, full dampening controls for surge pressures and sapphire feed orifice with pushbutton cleaner are features. Unit can be mounted on standard K & M diaphragm control valves in pressure ranges from 15 to 5000 psi. Made by **Kieley & Mueller, Inc.,** 158 Genung St., Middletown, N. Y.

▲ For more details circle NED-539 D5 on enclosed inquiry slip ▲

SOLENOID PILOT VALVE
for hydraulic circuit control

Designed for 3000 psi, series 6500 solenoid pilot valve meets all JIC requirements and is intended for automatic control of hydraulic circuits. It is a subplate mounted type for panel mounting and has a flow capacity of 3.6 gpm at 15 fps. Seven spool designs are available. Heavy continuous - duty shock - mounted solenoids operate on 3.6 amp inrush and 0.45-amp holding on 115 v. Dust sealed wiring box with terminal strip provides ½-in. conduit connections. Valve is furnished in ¼-in. size in double and single solenoids. Made by **Rivett Lathe & Grinder, Inc.,** Dept. NEP-2, Brighton 35, Boston, Mass.



▲ For more details circle NED-540 D5 on enclosed inquiry slip ▲

FOR MANY INDUSTRIAL FILTERING JOBS . . .

new Honan-Crane
Gives You **EXTRA HIGH FI**

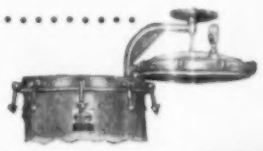
PLUS these time and money saving features

greater filtering efficiency—Designed for in-line installation. Every drop of oil or coolant in the system gets continuous filtration. solid particles down to micronic size (1 micron=0.00004 inches) are removed.

large dirt holding capacity—Uses remarkable new "Flo-Pak" Cartridge—a product of two years' research. Cartridge contains square feet of filtering surface . . . has exceptionally long life.

rugged construction—Built of tank steel for heavy-duty service with a minimum of upkeep. No moving parts. Special cover and cartridge gasket seals eliminate leakage and by-passing.

QUICK OPENING COVERS
Covers are fastened by swing bolts which can be loosened in seconds. Larger models have unique lifting device that swings cover to one side for easy access to refills.



Colorful 8-page Equipment Bulletin 101 gives full details . . . WRITE FOR YOUR COPY TODAY

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▲ For more details circle NED-541 D5 on

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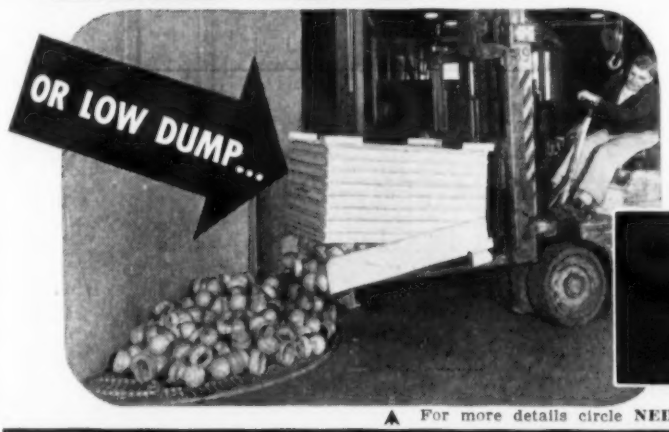


U
Mate

▲ For more details circle NED-542 D5 on

SKF INDUSTRIES, INC., PHILADELPHIA 32,
manufacturers of SKF *and* HESS-BRIGHT® *bear*

▲ For more details circle NED-543 D5

an-Crane **Full Flow** FILTER

HIGH FLOW RATES—25 to 800 GPM!

SIZES TO MEET ALL FLOW REQUIREMENTS

The Honan-Crane Full Flow Filter is available in nine compact models using one to 32 "Flo-Pac" Cartridges. Flow rates range from 25 to 800 GPM to provide "custom" filtration in any application.

Filter can be used on virtually any oil or coolant. Completely inert cartridge will not remove additives or inhibitors. Ideal for water soluble solutions . . . will not soften or disintegrate in water.

HH of Indiana

HOUDAILLE-HERSHEY OF INDIANA, INC.
FILTRATION DIVISION

SUBSIDIARY OF HOUDAILLE-HERSHEY CORP.

405 Wabash Avenue, Lebanon, Indiana

NED-541 D5 on enclosed inquiry slip ▲

Work-O-Matic* Boxes do the job *FASTER!*

TALK about versatility in material handling . . . the Work-O-Matic is one of the most efficient and versatile aids you've seen for cutting time and costs!

Used with a hydraulic fork lift truck, a Work-O-Matic box allows automatic, mechanical removal or deposit of parts at any height—*high or low!* And the discharge point remains constant at the selected fork lift height.

You'll also be interested in how these multi-duty boxes, with Union Metal positioning stands, are cutting production costs up to 50% per man per machine by speeding the flow of material in process at *proper work level!* For *all* the facts, write to The Union Metal Manufacturing Company, Canton 5, Ohio.

*Patent No. 2,445,038. Other patents pending.

UNION METAL
Material Handling Equipment

NED-542 D5 on enclosed inquiry slip ▲

To buy from an *authorized* SKF Distributor is to get extra values that cost you nothing . . .

The advice, when needed, of men who have and are taking SKF's courses in bearing selection, installation, and maintenance.

The use of SKF sound slide films and literature to train your own men on ball and roller bearings.

Prompt delivery of *any* SKF Bearing or Pillow Block from your distributor, who is backed by a nearby SKF warehouse stock.

Special-problem assistance from SKF's Field and Home-office service-engineering staff—the most experienced in the industry. 7616-A

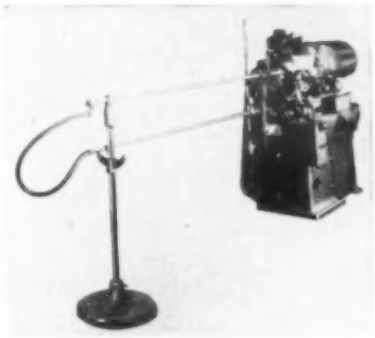
The right bearing *from* the right place puts the right bearing *in* the right place.

DELPHIA 32, PA.,
RIGHT® *bearings.*

SKF®
BEARINGS AND PILLOW BLOCKS

NED-543 D5 on enclosed inquiry slip ▲

HYDRAULIC BAR FEED
for Brown & Sharpe screw machines



Eliminating need for feed fingers, tubes and slides, Hydra-Lite hydraulic bar feed fits No. 00, 0 and 2 Brown & Sharpe screw machines. Stock diameters up to 1 1/8-in. can be fed by this unit which occupies same floor space as present stock stand. It operates on 110-v 60-cycle ac and handles polished stock without marking or scoring. Automatic signal light tells operator when machine is working on last piece part, and machine shuts off automatically when last piece is completed. Made by **Boyar-Schultz Corp.**, 2000 S. 25th St., Broadview, Ill.

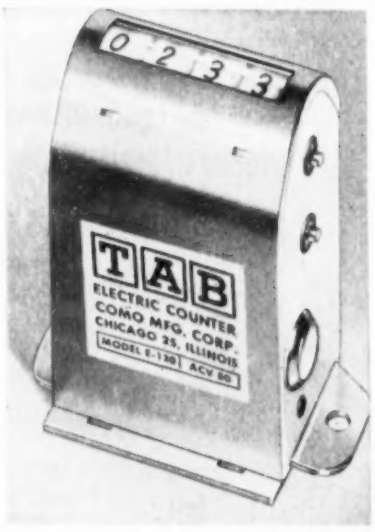
▲ For more details circle **NED-544 D5** on enclosed inquiry slip ▲

VISE STAND
used as portable work bench

Set up or taken down in a few seconds, this portable vise stand is one unit with no loose parts. A built-in tray pushes up and folds for easy carrying. Lightweight stand has large area for mounting of Toledo or other vises, three pipe benders, numerous tool slots, pipe rest and a ceiling brace. Made by **Toledo Pipe Threading Machine Co.**, Dept. NED, Toledo, O.

▲ For more details circle **NED-545 D5** on enclosed inquiry slip ▲

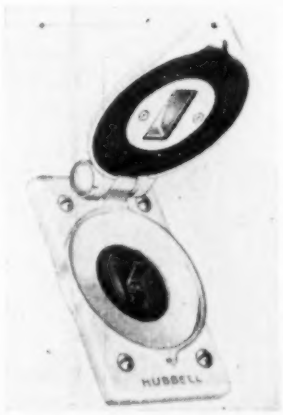
ELECTRIC COUNTER
handles up to 300 counts per minute



One-piece cog-action actuator featured in the Tab electric counter assures positive stepping for each impulse up to 300 counts per minute. The nonreset type device has a cadmium plated case and is available for 50, 100-v and special voltage requirements. Four-digit model measures 1 3/8 x 1 7/8 x 2 5/8 in., weighs about 6 oz and has 3/16-in. black-on-white numerals. Made by **Como Mfg. Corp.**, 5015 N. Kedzie Ave., Chicago 25, Ill.

▲ For more details circle **NED-546 D5** on enclosed inquiry slip ▲

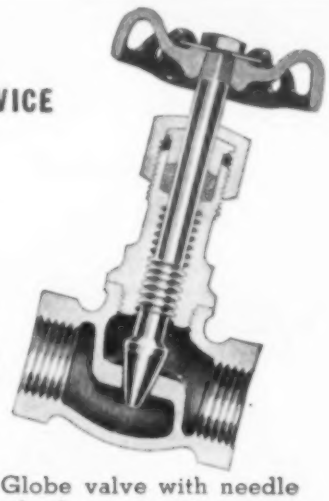
WEATHERPROOF FIXTURE
recessed cover takes toggle switch



Toggle or lock type switches can be installed outdoors, protected by a weatherproof plate which features a recessed cover to accept the switches. By removing the knock-out in the fiber insulating disk, two and three-wire, 20-amp Twist-Lock receptacles can be mounted, or by removing the disk entirely, four-wire, 20-amp receptacles can be utilized. When used with receptacles and caps equipped with Seal-Tite rubber covers, outlet is completely sealed when the plate is open, but when cap is withdrawn, cover snaps shut to seal the receptacle from moisture. Made by **Harvey Hubbell, Inc.**, Dept. X-1, State & Bostwick Ave., Bridgeport 2, Conn.

▲ For more details circle **NED-547 D5** on enclosed inquiry slip ▲

FOR CLOSE THROTTLING SERVICE USE THIS O-B NEEDLE VALVE



This O-B No. 401 Globe valve with needle point disc can be used where precision regulation of flow is required on steam, water, oil or gas service. Needle point disc is integral part of stem. Disc and seat are machined with identical taper to assure long, even wear. Rated at 200 pounds working steam pressure, 400 pounds water, oil or gas. Available in five sizes, 1/8 through 3/4 inches.

Ohio Brass also makes a complete line of bronze valves for industrial use. Write today for additional information. 4574-V

O-B VALVES Ohio Brass MANSFIELD OHIO, U. S. A.

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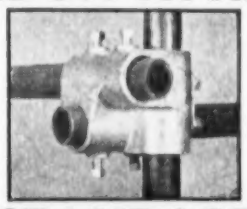
WITH
AMIDON FITTINGS



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THE MOST ECONOMICAL
AMIDON ENGINEERING CO.
ELYRIA 20, OHIO

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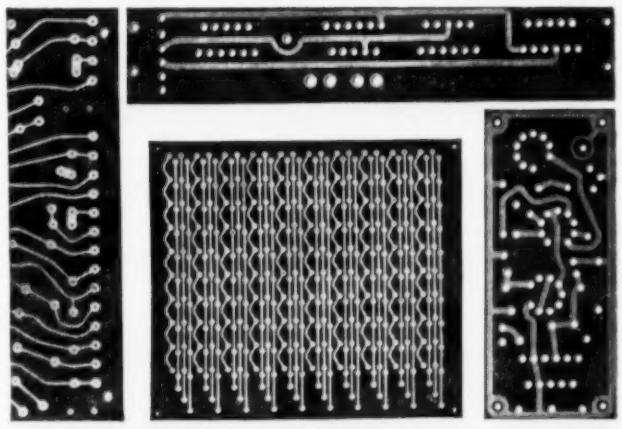

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Kodak Photo Resist lets you pre-coat and store plates in ready-to-use form for months without losing sensitivity. Nor will they be affected by heat or humidity.

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WRITE FOR: technical data booklet on how to make etched circuits and name plates with Kodak Photo Resist.

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Rochester 4, N. Y.

Kodak

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Convoy Boxes are LOW COST, STRONG and LIGHT WEIGHT . . . are made in a wide range of stock sizes and shapes. They weigh and cost less than 40% of steel.

*Chem-Board is Convoy's chemically impregnated corrugated board . . . flint-hard, rock-strong.

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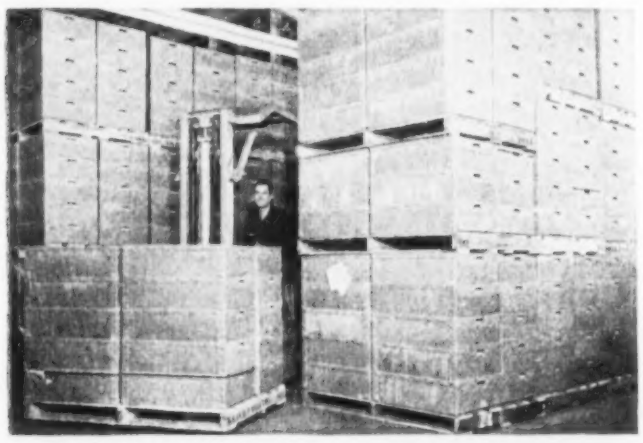

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P. O. Station B, Box 216-N

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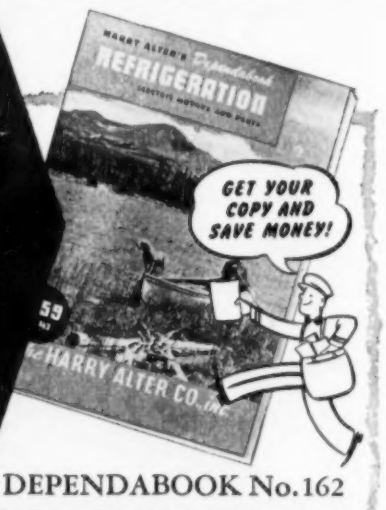

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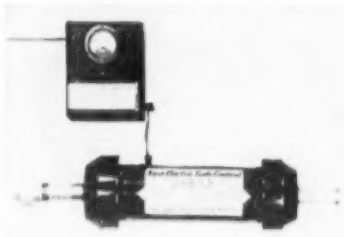
BUZZER PAGING SYSTEM
packaged for easy installation

Operating on 115-v ac and plugging into any electric outlet, this electric buzzer paging system is packaged for ease of installation. Included are relay box, push button control box and six buzzers for location as desired. Up to 20 buzzers can be used in single system. Push button control permits sounding of signals for any of up to 20 persons by simple one-hand operation. At receiving end, buzzers give loud, clear call. Each call is repeated automatically three times in 15 seconds. Repeat button on control station gives further repetition of calls, if necessary. Signal circuit is safe 24 v. Made by **Line Electric Co.**, 131 Ogden St., Newark 4, N. J.

▲ For more details circle **NED-554 D5** on enclosed inquiry slip ▲

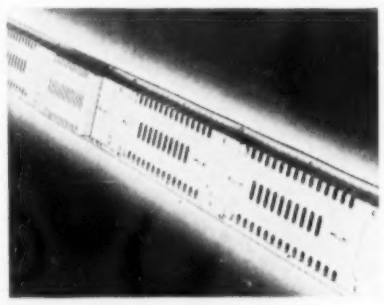
WATER SCALE CONTROL
for water-using or cooling equipment



Formation of hard scale in all types of equipment which use or are cooled with water is prevented by this improved Aqua Electric scale control unit. Control box has been redesigned for better efficiency. The number of required electrical connections has been reduced from four to two. Unit operates on 110-v ac. Flow of electrical current through water in pipeline is said to create a physical change in the form in which scale-forming elements precipitate. Five sizes range from ¾ to 4 in. with treating capacities from 18 to 450 gpm. Made by **Aqua Electric Scale Control, Inc.**, Dept. D, 2028 E. 22nd St., Cleveland 15, O.

▲ For more details circle **NED-555 D5** on enclosed inquiry slip ▲

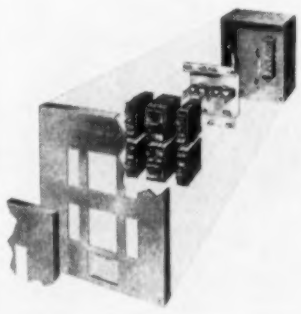
LOW VOLTAGE BUS SYSTEM
ratings from 225 to 775 amp, 600 v



Single size ventilated steel enclosure accommodates all current carrying capacities in Uni-Bus low voltage busway system. Ratings from 225 to 775 amp, 600 v in two, three and four-pole types are available. Feeder and plug-in types have identical construction details. Either horizontal or vertical installation is possible, with flexible connectors serving as elbows, offsets and expansion fittings. Made by **Roller-Smith Corp.**, Electrical Switchgear, Dept. A, Bethlehem, Pa.

▲ For more details circle **NED-556 D5** on enclosed inquiry slip ▲

CIRCUIT BREAKER LOAD CENTER
with 8, 12, 16 or 20 circuits



Designed for use as service entrance equipment, line of circuit breaker load centers is available with 8, 12, 16 or 20-circuit units with 100-amp main lugs. All models are listed by Underwriters' Laboratories. Fronts with doors and key-operated latches are available for three larger sizes. Snap-action spring clip allows load center interiors to be installed and removed without screws, tools or adjustments. Type R single-pole and type TQL double-pole common trip circuit breakers are used, both having thermal and independent magnetic tripping action. Made by **General Electric Co.**, Trumbull Components Dept., Section TC-1, 41 Woodford Ave., Plainville, Conn.

▲ For more details circle **NED-557 D5** on enclosed inquiry slip ▲

LOT LABELLING

Eliminate Shipping Labels! Print Direct!

Quick! Accurate! Easy! Print shipping information direct on cartons, boxes, packages. Eliminate double operation of preparing labels and then pasting them to the containers. Get 1,000 or more clear, sharp impressions from one stencil without re-inking. New FORM-CUT® Stencil has facsimile of your label or shipping form die-impressed into the stencil. Then type or write in address or identification data . . . attach to duplicator . . . and print, like using a rubber stamp. Write for Literature and FREE SAMPLE FORM-CUT STENCIL AND PRINT.

THE ORIGINAL HAND STAMP STENCIL DUPLICATOR

Also for addressing shipping tags and labels . . . prints postcards, menus, forms, bulletins. 8 complete outfits: $9.50 to $99.50, including supplies (f.o.b. factory). At office or shipping room supply dealers.

OVER 30 YEARS **MULTISTAMP** STENCIL DUPLICATOR ®

MANUFACTURED ONLY BY THE MULTISTAMP CO. NORFOLK, VIRGINIA

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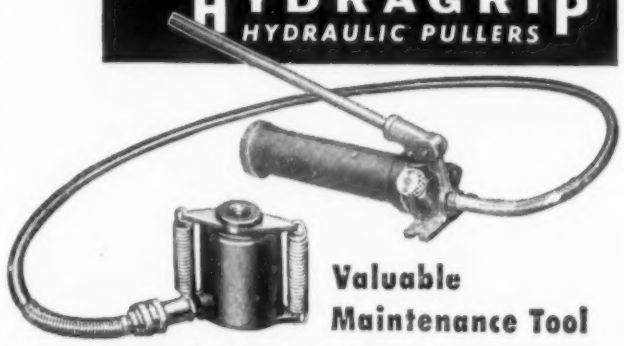
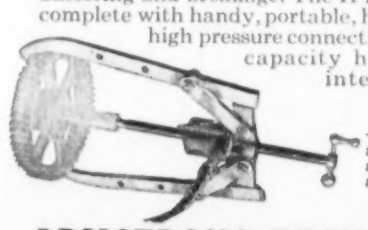
ARMSTRONG-BRAY HYDRAGRIP HYDRAULIC PULLERS



Valuable Maintenance Tool

With the handy HYDRAGRIP and a few ARMSTRONG-BRAY Pullers, you can quickly, safely and easily remove gears, wheels, bearings, sheaves or parts from shafts, can re-install them with equal ease. Single centered ram assures aligned thrust that moves parts along shafts smoothly without wedging or binding. Saves time, saves parts—ends battering and breakage. The HYDRAGRIP—comes complete with handy, portable, hydraulic hand pump, high pressure connecting hose and 17½-ton capacity hydraulic jack with interchangeable heads.



Write for Catalog Sheet—describes HYDRAGRIP and complete line of standard and special external and internal pullers.

ARMSTRONG-BRAY & CO.

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STURTEVANT MICRONIZER* GRINDING MACHINE

Grinds Materials To Any Micron Size Specification

NOW AVAILABLE FOR OUTRIGHT SALE

24" Size Capacities 1000 to 1200 lbs. per hour

The Sturtevant *Micronizers* are fluid jet grinding machines designed to reduce solid materials to particle sizes in the micron range.

Using compressible fluids, air or steam, as the source of energy, *Micronizers* produce pulverized materials to specifications unobtainable by other mechanical equipment such as ball, pebble or hammer mills.

The variety of materials processed is large and includes both nonmetallic and metallic minerals and ores, metals, pigments, insecticides, fungicides, pharmaceuticals, plastics, dyes and numerous other organic and inorganic products.

It is quickly and easily cleaned on changes of formulation with minimum loss of material. Simple to install and operate. It is available as a machine alone . . . or as a complete grouping with premixing, grinding and bagging equipment. Write for complete information, today.

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Now the sensational new T-J Spacemaker sets the pace in compact cylinder design and efficient performance!

New "Self-Aligning" adjustable oil cushion means faster acceleration and better cushion than ever before . . . New T-J Super Cushion Flexible Seals for air insure positive cushion with automatic valve action for fast return stroke.

More plus features include—heavy wall, precision honed, hard chrome plated, seamless steel body . . . leakproof cylinder head to body construction . . . heavy duty, high-tensile, *hard chrome plated piston rod.* Write for bulletin SM-454-2. The Tomkins-Johnson Co., Jackson, Mich.

T-J TOMKINS-JOHNSON
RIVITORS...AIR AND HYDRAULIC CYLINDERS CUTTERS CLINCHORS

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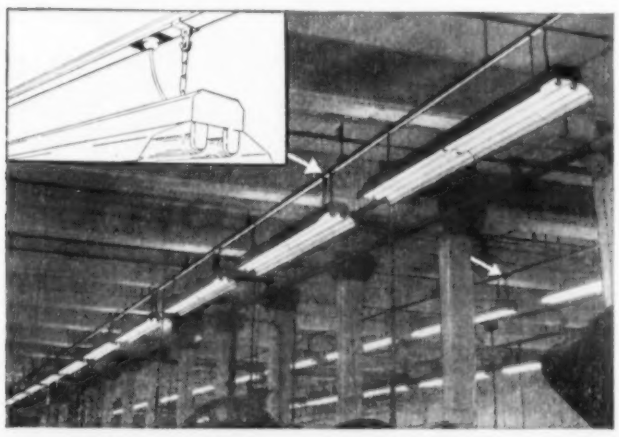
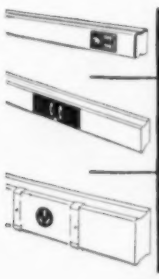
Modernize your electrical wiring with Wiremold

Increase EFFICIENCY and SAFETY in your plant with Wiremold Surface Metal Raceways and Multi-Outlet Systems which permit changing or extending existing wiring temporarily or permanently, and handle difficult special wiring installations quickly, easily and economically. Ten sizes of Wiremold raceways and a minimum number of well-designed fittings meet the requirements of every kind of wiring job . . . simplify all wiring jobs from panel box



In this factory lighting modernization, Plugmold 2100 simplified the wiring problem and now allows lighting units to be disconnected quickly for easy maintenance.
(Send for Data Sheet D-4 for complete details.)



Plugmold 2000 multi-outlet system with Snapicoil pre-wired receptacles provides continuous runs of electrical outlets *anywhere.*

Plugmold 2100—a larger raceway for applications where more than one or two circuits are required.

Wiremold 3000—a heavy duty system with a full series of cover fittings to adapt the raceway as an industrial plug-in-anywhere system.

You are invited to place your wiring problems before our Engineering Department. There is a Wiremold answer to every wiring problem. We will be glad to help you find it.

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For complete information write Dept. S4

The WIREMOLD Company
Hartford 10, Connecticut

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FLEXIBLE SHAFT MACHINE
four-speed suspension type

Suspension - type model V-40 flexible shaft machine has hook or trolley mounting and is practical where floor space is at a premium. Machine has ½-hp motor and can be operated at 1725, 2700, 4450 or 6900 rpm. It is furnished with 6-ft shaft. Speeds are easily changed with an eccentric countershaft. Unit can be used with grinding or buffing wheels, sanding disks or drums, wire brushes and drills. Belt and pulleys are completely guarded. Photo shows the V-40 being used to grind down seams on inside of stainless milk tank. Hook facilitates lowering the machine through small hole in top of the tank. Made by **Stow Mfg. Co.,** 26 Shear St., Binghamton, N. Y.

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PNEUMATIC RELAYS
for air volume and pressure control

Air volume amplifying; pressure reversing, retarding, advancing and averaging; differential controlling; and minimum pressure controlling are representative functions performed by extensive line of pneumatic relays. One device allows the highest of two varying air supply pressures to determine control pressure, while another acts as a check valve to permit air flow in one direction only. Electro-pneumatic valve allows air passage only when the solenoid is energized. Direct or reverse action are standard options on many models. Most feature ⅛-in. NPT connections for pressures to about 25 psi. Made by **Powers Regulator Co.,** Dept. NDC, 3400 Oakton St., Skokie, Ill.

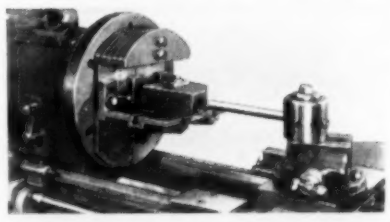
▲ For more details circle **NED-564 D5** on enclosed inquiry slip ▲

MAGNETIC SEPARATOR
for heavy machinery lube oil

Six permanent magnet separator assemblies are contained in shell of model 6-PA-6 Ferrofilter, developed for filtration of lubricating oil used in heavy machinery. Each assembly comprises a stack of 13 honeycomb grids, graded as to openings and magnetized by pair of Alnico permanent magnets. Even the finest particles of iron, steel, rust or scale are attracted to the thousands of feet of magnetized grid edges in each unit. This model has 8-in. flanged inlet and outlet pipe connections and rated capacity of 450 gpm for oil of 2500 ssu viscosity. Low resistance grids hold pressure drop to 2.5 psi. Made by **S. G. Frantz Co.,** P. O. Box 1138, Trenton 6, N. J.

▲ For more details circle **NED-565 D5** on enclosed inquiry slip ▲

LATHE FIXTURE
positions and holds all shapes



Engine and turret lathes, grinders and Borematic machines can be set up to hold non-round work and odd shapes in machining operations with this precision lathe fixture. The locating and holding fixture is equipped with a centerline locating pin from which accurate vertical locations can be made. Adjustable counterweights insure proper balance in operation. Horizontal locations are made from the center or edge of the plate. Fixture mounts on any standard lathe face plate and has a fixture plate with T-slots that is movable up and down. Five sizes for lathes of 9-in. capacity and larger are available. Made by **Universal Vise & Tool Co.,** 12 Nedo St., Parma, Mich.

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KEYNOTES

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It's the perfect sealer for pipes carrying oil, gas, high-pressure steam.

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SPECIAL DESIGNS
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IRON - RUBBER - PNEUMATIC

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Orangeville 12, Pa.
"Since 1879"

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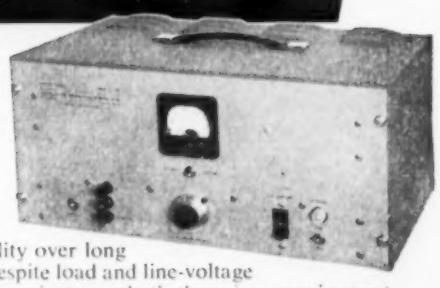
Research-Quality D-C



Extreme stability over long time periods despite load and line-voltage variations or transients . . . that's the prime requirement for a laboratory or quality-control d-c power supply. CEC's new Type 3-132 Low Voltage Regulated Power Supply combines this high precision with unusual convenience and adaptability. It is self-contained, usable anywhere there is 115-volt, 50/60/400-cycle power.

CONDENSED SPECIFICATIONS . . .

Output . . . . . 0-15 volts d-c at 1 amp (max)
Stability . . . . . Less than 5 mv/hr drift
Voltage Regulation 0.1%
Ripple . . . . . Less than 1 mv peak-to-peak

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City State
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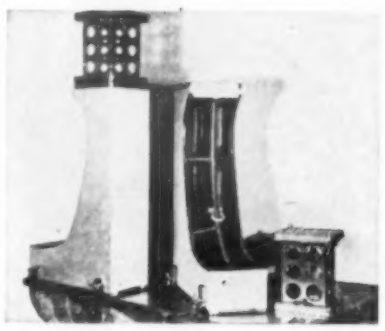
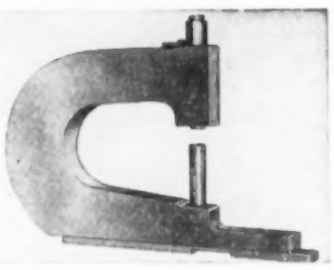
HEIGHT BLOCKS & ANGLE PLATES
made with steel tops and bottoms



Usable singly or in combination to secure a wide range of heights for varied work requirements, line of height blocks and angle plates have heat treated aluminum alloy bodies and hardened steel tops and bottoms. Blocks have pins for stackings. Six standard angle plate sizes range from 24 to 72 in. high. They have jog blocks inside for slight movement and stop blocks on sides for squaring the angle plate with surface plate if necessary. Height blocks range from 5 to 20 in. high in 5-in. increments. They are parallel within ±0.005-in. in 12 in. Special height blocks and angle plates can be furnished. Made by **Machine Products Corp.**, 6763 E. McNichols Rd., Detroit 12, Mich.

▲ For more details circle NED-573 D5 on enclosed inquiry slip ▲

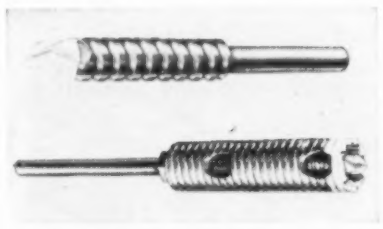
HOLE PIERCING UNITS
punch up to 5/16-in. holes



Series of compact aircraft type piercing units for piercing holes in aluminum extrusions will punch up to 5/16-in. diameter holes on ¾-in. centers. Equipped with Toolset top and bottom punch guide, units are used on wide range of presses. Many parts in the various models are interchangeable, such as the stripper springs, lifter springs and upper and lower guides. Piercing units are supplied in high and low shut heights in fixed or adjustable position mountings. Made by **General Riveters, Inc.**, Toolset Div., Hertel at Elmwood Ave., Buffalo 7, N. Y.

▲ For more details circle NED-574 D5 on enclosed inquiry slip ▲

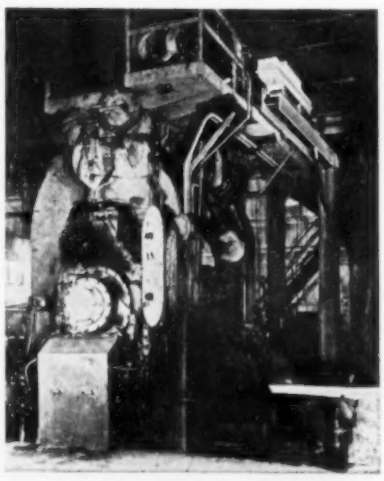
MASONRY DRILLS
core and twin cutter types



Hard chrome finish and preformed carbide tips are features of core and twin cutter type Blue Tip masonry drills. A buttress thread is used on the worm body. Core type drills (bottom) are available in sizes up to 2 in. as standard, up to 6 in. on special order. Twin cutter models (top) are made in sizes from ¼ to 1 in. Center starting pilot on core drills eliminates "walking" and helps shatter cores formed in shallow drilling. Morse tapers are available. Made by **Royal Arc Industries, Inc.**, 425A Cedar St., Chillicothe, Ill.

▲ For more details circle NED-575 D5 on enclosed inquiry slip ▲

STRIP WIDTH GAGE
guides control of rolling mill

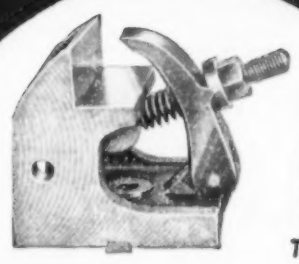


Hot steel strip traveling at speeds up to 2000 fpm is measured accurately with non-contact type Infra-Ray gage, shown at right top of photo. Gage head can be located 10 to 20 ft above the hot metal and measures widths from 3 in. to 10 ft accurately. Strip temperatures can vary from 900 to 2000°F without affecting accuracy of gage. Gaging is continuous. Signals are sent to the edger, speed operator and roller when width varies from any predetermined measurement. Made by **Industrial Gauges Corp.**, Dept. N, Englewood, N. J.

▲ For more details circle NED-576 D5 on enclosed inquiry slip ▲

CESCO RIGHT... before your Eyes!

CHICAGO EYE SHIELD COMPANY • 2322 Warren Boulevard, Chicago 12, Illinois
CESCO FOR SAFETY
OFFICES IN: Atlanta, Birmingham, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Dallas, Detroit, East Orange, Houston, Indianapolis, Kansas City, Knoxville, Little Rock, Los Angeles, Louisville, Mexico City D.F., Milwaukee, Montreal, Peoria, Philadelphia, Pittsburgh, Salt Lake City, San Francisco, Spokane, St. Louis, St. Paul, Toledo, Tulsa, Wichita
▲ For more details circle NED-577 D5 on enclosed inquiry slip ▲

CUT SET-UP COSTS HUNDREDS OF WAYS WITH

HART MILLING FIXTURES
"Masters of A Thousand Set-ups"
Eliminate the need for many special expensive jigs and fixtures.
You will save time and money on most set-ups with Hart Milling Fixtures. They hold round, hexagonal, octagonal or square stock, for miller, shaper, drill press and tapper; they reduce set-up time and speed production. Hart Milling Fixtures are made in four useful sizes, and designed to be used in horizontal or vertical position. Let us send you full description and prices.
Write for illustrated folder
WALTER W. FIELD & SON, INC.
39 Hayward St., Cambridge 42, Mass.
▲ For more details circle NED-578 D5 on enclosed inquiry slip ▲

time studies prove it!
Alemite plan for lubricant transferring is 63% faster!
Alemite cuts costs!
all the way from barrel to bearing you save on maintenance, repairs, down-time!
Alemite Plan "B" offers a cost saving combination of lubrication equipment. Transfer Pump fits directly into original refinery drum and fills 27 pound Bucket Pumps in less than a minute. Once filled, Bucket Pump can service hundreds of bearings without once returning to the oil room. Your Alemite representative can show you the exact combination to save you money.

This is just one of the five money saving plans outlined. Valuable booklet sent to you FREE! Write: Alemite, Dept. DD-45, 1850 Diversey Parkway, Chicago 14, Illinois.
WRITE FOR FREE BOOKLET—"5 Plans for Better Lubrication"

ALEMITE
REG. U. S. PAT. OFF.
▲ For more details circle NED-579 D5 on enclosed inquiry slip ▲

HOW MANY HOLDING JOBS DO YOU HAVE?

How many holding jobs do you have for the new Jacobs Model 96 Rubber-Flex Collet Chuck? Frankly, we don't know all the applications possible for this marvelous holding device. We *do* know it is the most accurate collet chuck in the world . . . that it has a gripping power unmatched by any split steel collets . . . and that it holds any piece from 1/16" to 1 3/8" in diameter — with only 11 collets.

We would like to hear about your work or tool holding ideas for the Model 96. For all the pertinent facts about this new chuck see your industrial distributor, or write directly to The Jacobs Manufacturing Co., 2404 Jacobs Road, West Hartford 10, Connecticut. Ask for Bulletin 54-CC.

Jacobs CHUCKS If it's a Jacobs it holds

▲ For more details circle **NED-580 D5** on enclosed inquiry slip ▲

ARO Variable Speed AIR HOIST

Variable Speed . . . 1000 lbs., 0 to 38′ per minute . . . 2000 lbs., 0 to 20′ per minute . . . load can be inched or zipped.

AIR-powered for Safety... no spark hazard . . . explosion-proof motor . . . can't burn out . . . can't overheat . . . unaffected by dust or fumes.

Lightweight . . . only 28½ lbs. for 1000 lb. hoist . . . 2000 lb. hoist weighs only 47 lbs. Overall length all models, 10½" to 11⅛".

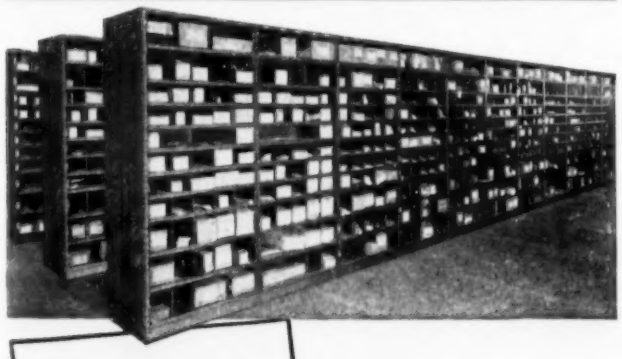
See your ARO Distributor

The Aro Equipment Corporation
Bryan, Ohio
Offices in All Principal Cities
In Canada—Aro Equipment of Canada, Ltd
Toronto, Ont.

ARO **AIR HOIST**

Also . . . Air Tools . . . Lubricating Equipment . . . Aircraft Products . . . Grease Fittings

▲ For more details circle **NED-581 D5** on enclosed inquiry slip ▲



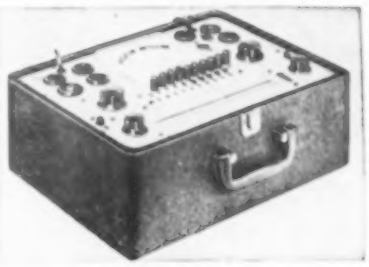
FREE LAYOUT SERVICE for all storage needs

Trained Equipto engineers will lay out your storage facilities . . . suggest the number and types of units you will need . . . assure maximum use of every inch of floor space . . . increase working efficiency by expert arrangement of units. Take advantage of this free service. Ask our engineer to call, or write for catalog on complete line.

Equipto DIVISION OF AURORA EQUIPMENT CO.
690 Prairie Ave., Aurora, Illinois
Steel Shelving . . . Parts Bins . . . Drawer Units

▲ For more details circle **NED-582 D5** on enclosed inquiry slip ▲

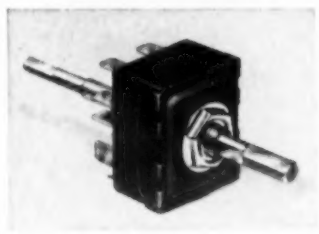
TUBE TESTER KIT
uses cathode emission method



Easy - to - build Knight tube tester kit, practical for the industrial maintenance laboratory, uses the cathode emission method to measure tube performance. It can also be used to check for shorted or open elements and heater continuity. Kit handles 4, 5, 6 and 7-pin large, regular and miniature tubes, as well as octals, loctals, 9-pin miniatures and pilot lamps. A 4½-in. meter, a line voltage compensator and a clearly marked operating roll chart assure high accuracy. Universal socket pin selectors allow testing tubes with new base arrangements without changing wiring. Roll chart can be removed for easy addition of data on new tubes and a blank socket is provided for future use. Single-unit, 10-lever function switch simplifies assembly. Made by **Allied Radio Corp.**, Dep' NED, 100 N. Western Ave., Chicago 80, Ill.

▲ For more details circle **NED-583 D5** on enclosed inquiry slip ▲

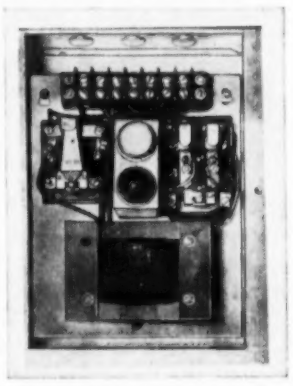
ROTARY SWITCHES
for electrical or mechanical units



Series of small rotary switches with dual coaxial spindles provides control of a second switch, thermostat, solenoid, damper, valve or other electrical or mechanical unit. They carry UL-approved ratings up to 20 amp at 120 or 240 v. Smaller direct current ratings are also available. Outer shaft of the spindle controls the model 3900 switch itself, while the inner shaft, extending through the rear of the base, provides for independent operation of auxiliary equipment. Switches are available single or double-pole, 2 to 12 positions, with stop as required. Size is 1½ x 1¼ x ⅞-in. Made by **Hart Mfg. Co.**, Dept. N, 110 Bartholomew Ave., Hartford, Conn.

▲ For more details circle **NED-584 D5** on enclosed inquiry slip ▲

ELEVATOR SAFETY DEVICE
packaged unit prevents overloading



Packaged elevator safety device to prevent overloading can be quickly and inexpensively mounted on cab of new or existing passenger or freight elevators. Device signals when predetermined load is reached. If elevator is overloaded, unit electronically prevents its movement. Device automatically resets when overload is removed. Made by **Thompson Elevator & Electric Co.**, 2754 W. Superior St., Chicago 12, Ill.

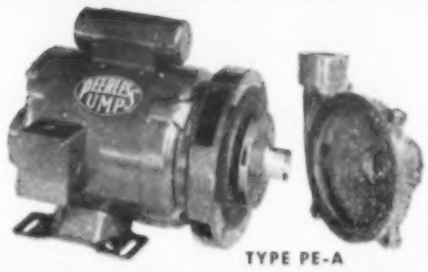
▲ For more details circle **NED-585 D5** on enclosed inquiry slip ▲

PROCESS TIMER
incorporates percentage timing

This line of repeat cycle process timers will operate continuously to turn circuits on and off for constant interval operations. In addition they provide percentage timing for use where constant accuracy is required in repeating operations. Percentage selected, for example to maintain a constant temperature, is obtained in same manner as setting for any of its other applications. Knobbed pointer is turned to desired adjustment. Unit has a time cycle of 15 seconds to 24 hours, with a range of adjustability for on or off periods up to 94 per cent. Timer has visible dial, snap-action switch and synchronous motor and measures 5 x 3 x 3 in. Made by **Zenith Electric Co.**, Dept. NDC, 152 W. Walton St., Chicago 10, Ill.

▲ For more details circle **NED-586 D5** on enclosed inquiry slip ▲

NEW and IMPROVED



TYPE PE-A

THE LEADER IN THE AIR-CONDITIONING FIELD
THE RELIABLE PEERLESS *Fluidyne*® PUMP

Now Provides
NEW PERFORMANCE
NEW QUALITY
NEW DEPENDABILITY
NEW ECONOMY

Write for details, prices and performance data. *Request Bulletin No. IW-155.*

LOADED WITH FEATURES: New, durable, ceramic-plastic shaft seal. Long-wearing, stainless steel shaft. More efficient, broader head-capacity performance range. New NEMA type motor. New bronze wear ring in volute to prevent seizing. All bronze impeller.

PEERLESS PUMPS

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION
301 W. Avenue 26
Los Angeles 31, California
New York, Indianapolis, Chicago, St. Louis, Atlanta, Plainview and Lubbock, Texas; Fresno, Los Angeles, Phoenix, Albuquerque.

▲ For more details circle **NED-587 D5** on enclosed inquiry slip ▲

"WE CAN NOW PUSH OUR EQUIPMENT 24 HOURS A DAY WITHOUT FUSE BLOWS CAUSING NEEDLESS SHUTDOWNS, THANKS TO FUSETRON *dual-element* FUSES."

"When we are on a tight schedule, we must operate 24 hours a day. A work stoppage of any kind is most important as we just can't afford to waste time.

"We were using ordinary fuses but these fuses would blow often and as I now know — needlessly.

"Something had to be done. We called upon Mr. Paul Serotta of the Norristown Electric Supply Company. He recommended we discard our old fuses and replace them with Fusetron fuses.

"That was the answer. Now, when we are on full production basis I am not worried that our equipment will be out of operation by the needless blowing of fuses."

Harry DiNenna, Chief Engineer
Herbert Hosiery Company, Norristown, Pa.

FUSETRON Fuses Do More Than Eliminate Needless Shutdowns ▶ They give 10 Point Protection when installed throughout the electrical system.

and

FUSETRON Fuses give you greater safety. ▶ Their 100,000 amp. interrupting rating is adequate for today's network system capacities — and safe to meet future circuit growth . . . Write for bulletin FIS.

For Loads above 600 and up to 5,000 amps. Use BUSS Hi-Cap Fuses ▶ On 600 volts or less, they have unlimited interrupting capacity to handle any fault current. When coordinated with Fusetron fuses they will not open ahead of fuse nearest fault . . . Write for bulletin HCS.

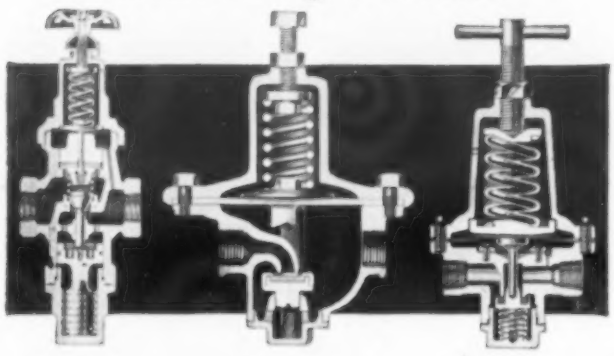
Play Safe! Install FUSETRON Fuses and BUSS Hi-Cap Fuses throughout entire Electrical System!

FUSETRON BUSS — TRUSTWORTHY NAMES IN ELECTRICAL PROTECTION

BUSSMANN MFG. CO. (Div. of McGraw Electric Co.) University at Jefferson, St. Louis 7, Mo.

▲ For more details circle **NED-588 D5** on enclosed inquiry slip ▲

MASONEILAN PRESSURE Reducing Valves



No. 11 No. 227 No. 71

For Accurate Control of...

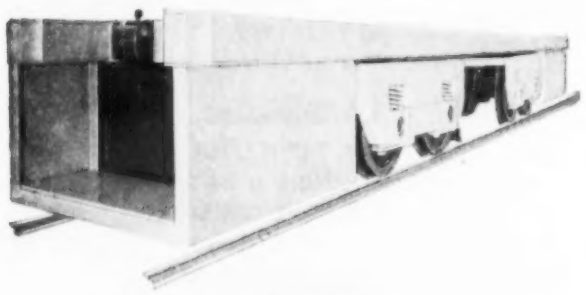
- STEAM PRESSURES
- AIR PRESSURES
- WATER PRESSURES

Write for catalog or call your local Mason-Neilan Industrial Distributor for fast, dependable service.

MASON-NEILAN
REGULATOR CO.
1189 ADAMS STREET, BOSTON 24, MASS., U. S. A.

For more details circle NED-589 D5 on enclosed inquiry slip

Built to take a beating!



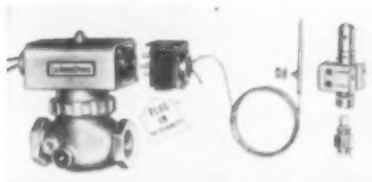
Phillips motorized transfer cars

Even under the most adverse conditions, Phillips Motorized Transfer Cars will provide extra long service life because extreme durability has become a design feature as with all Phillips equipment. Each unit is custom engineered to fit individual requirements. Motive power may be battery, gas electric or external electric. Capacities—15 tons up. Write, wire or phone Phillips for full details and prices.

Phillips
CORPORATION
(formerly Phillips Mine & Mill Supply Co.)
Manufacturers Since 1863
16 Arch Street, Carnegie, Pa.

For more details circle NED-590 D5 on enclosed inquiry slip

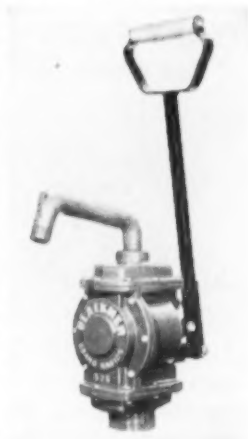
SOLENOID GAS VALVE
has plug-in automatic gas pilot



Snap-action switch and powerful mercury-actuated thermal element are incorporated in the quiet Cushioned Power solenoid gas valve. It is designed for use in combination with a plug-in type automatic gas pilot. Operation can be on a wide range of gas pressures and on both line and low voltage. Unit is available in automatic reset and manual reset types, unassembled in three basic subassemblies: switch and thermal element, pilot burner and bracket and orifice fitting. All are interchangeable. Valve features resilient mounted coil, sound-deadening cover, compression spring closing and soft seat. It is available in ½, ¾ and 1-in. sizes with 340, 450 and 775 cfh capacities. Made by **White-Rodgers Electric Co.**, 1298 Cass Ave., St. Louis 6, Mo.

For more details circle NED-591 D5 on enclosed inquiry slip

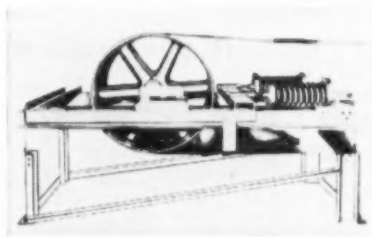
HAND PUMP
for handling all types of liquids



Petroleum products, water and alcohol are but a few of the liquids which can be handled by this Flo-Master corrosion-proof hand pump. It has die-cast aluminum alloy body, composition piston rings and stainless steel shaft and valves. Rated 25 gal, it delivers 1 qt per stroke. It is self-priming and will develop 25-ft suction lift. Optional equipment includes flow register for measuring volume of liquid delivered and a safety device which provides for draining back the fluid from the pump and fittings after each pumping operation. Made by **Blackmer Pump Co.**, 1809 Century Ave., Grand Rapids 9, Mich.

For more details circle NED-592 D5 on enclosed inquiry slip

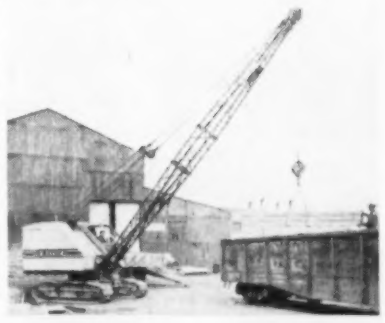
BELT CONVEYOR COMPONENTS
packaged units ease selection



Complete conveyors can be engineered for specific purposes by selecting the proper pre-engineered packaged components. Typical components include drive end and tension end assemblies, steel belts, discharge devices, safety devices and loading hoppers. Take-up bearing, pivoting weight, spring and counterweight types of tension end assemblies are available, each in a variety of sizes. Included with each assembly are pulley with shaft and bearings, tensioning device, safety scraper, pulley cleaner and supporting steel frame. Developed by **Sandvik Steel, Inc.**, Sandvik Steel Belt Conveyors Div., Dept. N, 111 Eighth Ave., New York 11, N. Y.

For more details circle NED-593 D5 on enclosed inquiry slip

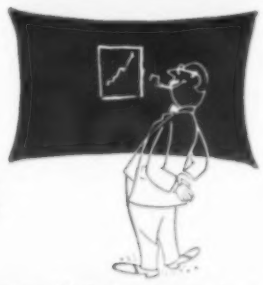
CRANE-EXCAVATOR
crawler and truck-mounted models

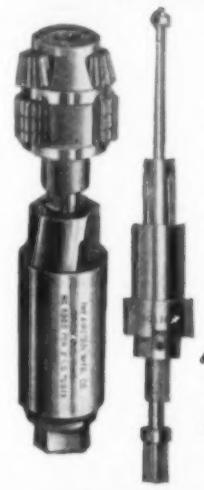


Basic ¾-yd Wayne crane-excavator can be equipped as specified by the buyer, thereby lowering initial investment. Machine is offered as ¾-yd crawler - mounted model 70 and ¾-yd truck-mounted models 50A and 50B. Such optional features as independent boom hoist, friction type swing lock, double-load rollers and power lowering on the load line can be added at any time. Many interchangeable parts are incorporated. All models are available as shovel, trench hoe, crane, clamshell and dragline. Made by **American Steel Dredge Co.**, Wayne Shovel & Crane Div., 2512 Taylor St., Ft. Wayne 1, Ind.

For more details circle NED-594 D5 on enclosed inquiry slip

co$t-cutting efficiency with AIRETOOL tube maintenance equipment!





Keep production high in your plant . . . use reliable AIRETOOL Tube Cleaners and Tube Expanders regularly, to insure that all tubular equipment remains in the best operating condition. Powerful Airetool motors drive any combination of cutter, drill or brush cleaner heads, quickly removing hardest deposits from straight or curved tubes, regardless of diameter or radius. To prevent leaky tube joints, roll them to a uniform tightness and maximum bond between tube and tube sheet . . . with Airetool Tube Expanders.

AIRETOOL
MANUFACTURING COMPANY
SPRINGFIELD, OHIO

Representatives in principal cities of U.S.A., Canada, Mexico, South America, England and Japan.

BRANCH OFFICES: New York, Chicago, Philadelphia, Houston, Tulsa, Baton Rouge

There's an AIRETOOL tube cleaner and tube expander for every type of tubular construction

For more details circle NED-595 D5 on enclosed inquiry slip

GOT A WEB GUIDING PROBLEM?

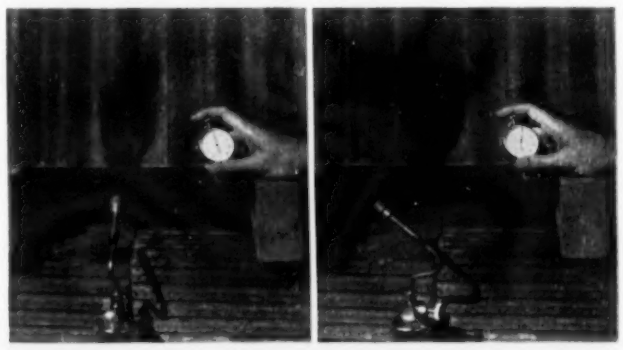
ASKANIA EDGE POSITION CONTROL
for every web guiding job!

12 page Bulletin describes this simple, easy to install, easy to maintain system. Only a breath of air touches the controlled material—yet speed and force available for correction are practically unlimited. Write for your copy of Bulletin 161.

ASKANIA REGULATOR COMPANY
258 E. Ontario Street, Chicago 11, Illinois
Subsidiary of General Precision Equipment Corp.

For more details circle NED-596 D5 on enclosed inquiry slip

New Self-Extinguishing Panels by RESOLITE



As shown above, Resolite's new Fire-Snuf panels are self-extinguishing. Five seconds (note stop watch) after blowtorch was removed, flame was gone.

These panels are molded of fiberglass and "Hetron", a permanently fire-resistant resin, manufactured by Hooker Electrochemical Co. Having a flame spread rating under 75, it can be specified for plant daylighting in areas where fire hazards or building codes require "slow burning" materials.

Fire-Snuf panels retain all characteristics which have made Resolite the most popular new material for plant daylighting. For complete information write:

RESOLITE CORP., Box 527, Zelienople, Pa.
Distributors in principal cities, U.S. and Canada

For more details circle NED-597 D5 on enclosed inquiry slip

MARSHALLTOWN

Capacities from 18 Gauge to ½"
Cuts any SIZE . . . any SHAPE

America's finest for every cutting job—straight, irregular or circular patterns.

Speedy—up to 6 ft. per minute. Efficient, easy to operate.

Built for extra heavy duty use. High grade tool steel cutters.

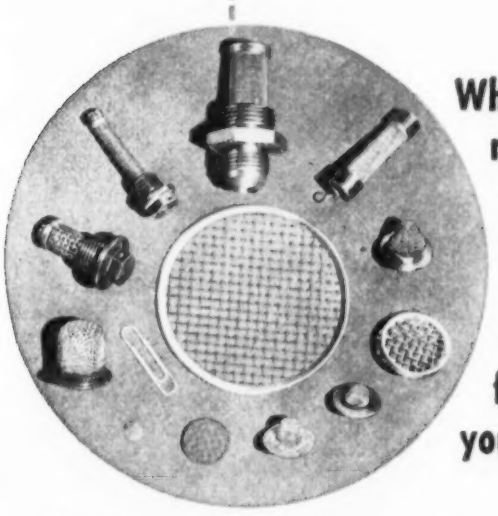
Write today for details and prices.

MARSHALLTOWN MFG. CO., Marshalltown 2, Iowa

▲ For more details circle NED-598 D5 on enclosed inquiry slip ▲

ARE SMALL MESH PARTS A BIG PROBLEM?

Small parts made with wire cloth, similar to those illustrated, or big parts for that matter, can be troublesome to fabricate.



Why not let us make them for you?

WE have ample facilities and skilled workmen to produce these parts in small lots or in production quantities. We use NEWARK WIRE CLOTH, woven in our own plant — thereby assuring a steady supply of material — good material. Our years of experience gained in working with wire cloth assures you of quality workmanship to your exact specifications.

If desired, our engineers will be glad to work with you in the design of the part in order to assure the best use of the cloth and economy of production. Let us quote you on your requirements.

We can furnish wire cloth woven from all commercially used metals. Sizes range from 4 inches (space cloth) to 400 mesh.

NEWARK for ACCURACY

Newark Wire Cloth COMPANY

351 VERONA AVENUE • NEWARK 4, NEW JERSEY

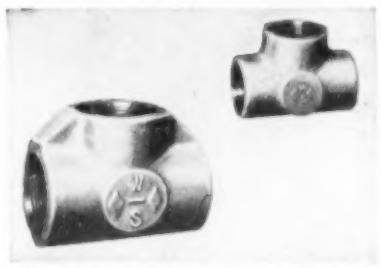
▲ For more details circle NED-599 D5 on enclosed inquiry slip ▲

SEALING ELECTRIC CONNECTORS
form water and dustproof joint

Flexible rubber lip which flips over the male component of Flip - Seal UL - approved electrical connectors insures a positive sealing and locking action. Cable entrances at both ends of the connectors are also self-sealing. These actions seal out moisture, dirt, dust and metal particles. Connectors are molded of phenolic and encased in either a rubber or grease and oilproof Neoprene housing. At present, ten different connectors are available. These include 10-amp 2-wire and 3-wire interlocking, 10-amp 3-wire straight, 10-amp 2-wire parallel, 15-amp 125-v 3-wire U-blade grounding, 20-amp 2-wire and 3-wire interlocking, 20-amp 2-wire T-polarity, 20-amp 3-wire straight and 20-amp 4-wire interlocking. Developed by **Rodale Mfg. Co.,** Minor St., Emmaus, Pa.

▲ For more details circle NED-600 D5 on enclosed inquiry slip ▲

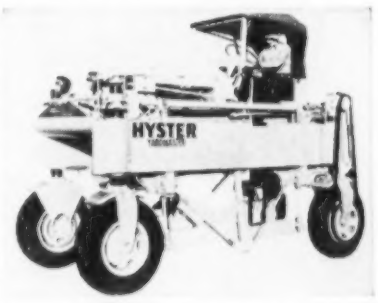
PIPE FITTINGS
made of stainless steels



Screw-end and socket-welding types of 150-lb stainless steel pipe fittings are available for standard pressure services where corrosion is a factor. Type 304 stainless steel, highly resistant to corrosion and high temperature oxidation, and type 316 stainless, with higher corrosion resistance are offered in ⅛ to 2-in. sizes. Made by **H. K. Porter Co.,** Watson-Stillman Fittings Div., Dept. N, P. O. Box 95, Roselle, N. J.

▲ For more details circle NED-601 D5 on enclosed inquiry slip ▲

STRADDLE TRUCK
91-hp unit has 20,000-lb capacity

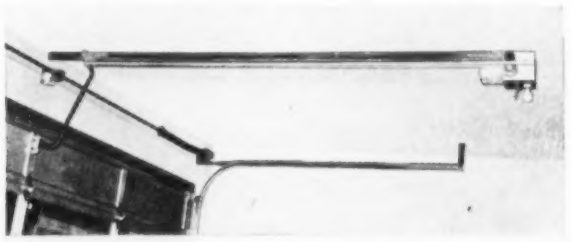


A 91-hp Hercules JXE-3 "L" engine powers this model MD straddle truck which has lifting capacity of 20,000 lb. Mechanical improvements made in this unit over previous 18,000-lb capacity model include 12-in. clutch, vacuum power brakes and heavy-duty hypoid differential. Additional features are positive-controlled simplified swing mechanism, new load shoes and link rods and a new instrument panel which includes an electric fuel gage. Package sizes are available up to maximum height of 78 in., or maximum width of 76 in. Four gear speeds span range from 3½ to 30. Made by **Hyster Co.,** 2906 N.E. Clackamas St., Portland 8, Oreg.

▲ For more details circle NED-602 D5 on enclosed inquiry slip ▲

OVERHEAD DOOR OPERATOR
fits curved and straight-track doors

Tailored to accommodate most of the popular makes of curved and straight-track type overhead doors, line of Lift-A-Door operators includes electrical and



radio-controlled models. Seven models with prices ranging from $69.95 to $219.95 are offered. Highest priced is Genie model A which is completely automatic and radio-controlled. It opens and closes the doors, turns lights on and off, and locks and unlocks the door, all operations being controlled from the dash of the car or truck. Made by **Alliance Mfg. Co.,** Dept. BP, Alliance, O.

▲ For more details circle NED-603 D5 on enclosed inquiry slip ▲

Wheelabrator Steel Shot has proved its ability to cut abrasive costs as much as 60%, 38%, 45% and 57% in hundreds of applications. This electric furnace steel shot not only cleans faster but lasts longer than other abrasives. It provides greater coverage, insures uniform results and cuts maintenance costs. Plus features include 50 lb. carton packaging and palletized shipments to save handling time.

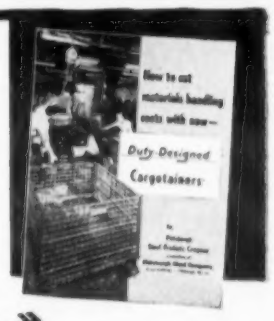
Send for Bulletin 89-B.

American WHEELABRATOR & EQUIPMENT CORP. — WHEELABRATOR STEEL SHOT

508 S. Byrkit St., Mishawaka, Indiana

▲ For more details circle NED-604 D5 on enclosed inquiry slip ▲

How to reduce materials-handling costs!



Did you know you can get Cargotainers® "Duty-Designed" for your particular products? Cargotainers are now working for some of America's largest manufacturers handling everything from auto parts, thread, smoked ham, plastic, electrical equipment—yes, even to the U. S. mail. Cargotainers pay for themselves quickly because they reduce damage to merchandise and equipment, double storage space, speed production, save labor.

A new 24-page illustrated manual has just been published. Regardless of the type or kind of products you make, you should have a copy. It's yours for the asking. **Pittsburgh Steel Products Company, 1407 Grant Building, Pittsburgh 30, Pennsylvania.**

▲ For more details circle NED-605 D5 on enclosed inquiry slip ▲

IF YOU USE INDUSTRIAL FABRICS OR TAPES

You Should Have These

FLIGHTEX

FLIGHTEX FABRIC

SWATCH BOOKS

Our staff of engineers is at your service to help solve your fabric and tape problems.

☐ GLASS ☐ COTTON
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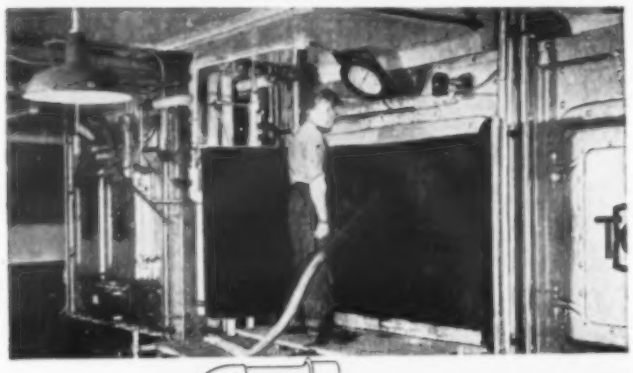
FLIGHTEX FABRICS, INC.
91 WORTH STREET
New York 13, N. Y.

▲ For more details circle NED-606 D5 on enclosed inquiry slip ▲



BOILER CLEANING with SPENCER VACUUM

You can save 10 to 20% of your fuel cost by keeping the boiler tubes clean, with Spencer Vacuum. The same machine, piped to floors above can salvage materials, remove dangerous dusts and gasses and provide low cost safety, sanitation and good plant housekeeping at lower costs.

Ask for Bulletin 137 on boiler cleaning and 144 on unusual uses in industry.

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT

SPENCER HARTFORD

500-K

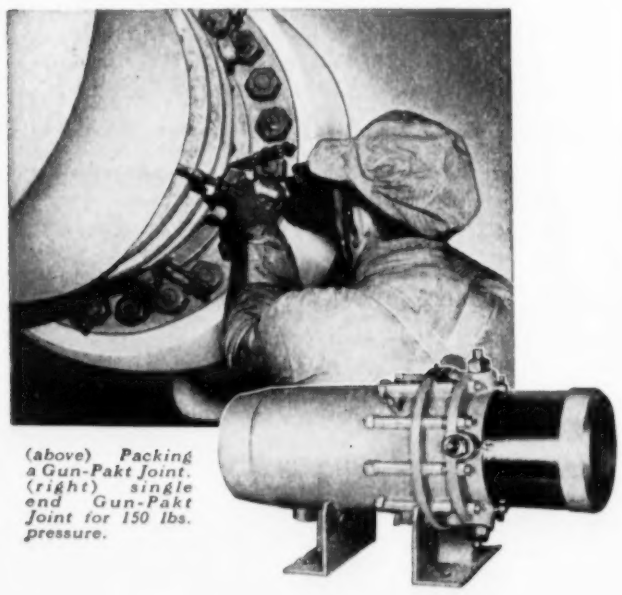
▲ For more details circle **NED-607 D5** on enclosed inquiry slip ▲

AVOID SHUTDOWNS! USE EXPANSION JOINTS PACKED UNDER FULL STEAM PRESSURE

Production schedules can be ruined by repair and service shutdowns on steam distribution lines. Avoid shutdowns by using the slip-type expansion joints that can be packed under full steam pressure—Yarway Gun-Pakt Expansion Joints.

You simply insert a piece of Yarway plastic packing, twist a wrench, and the joint is tight...the job done.

Other Yarway Gun-Pakt advantages—(1) strong, rugged construction with less chance of major shutdowns, (2) fewer joints needed per length of pipeline because of longer sleeve traverses, (3) lower year-in-year-out maintenance costs.



(above) Packing a Gun-Pakt Joint. (right) single end Gun-Pakt Joint for 150 lbs. pressure.

Public utilities, industrial plants and institutions find Gun-Pakt one of the greatest expansion joint advancements in recent years. See how Gun-Pakt joints will fit into your steam lines. Write for Yarway Expansion Joint Bulletin EJ-1912.

YARNALL-WARING COMPANY
131 Mermaid Avenue, Philadelphia 18, Pa.

YARWAY | gun-pakt expansion joints

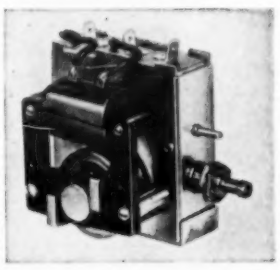
▲ For more details circle **NED-608 D5** on enclosed inquiry slip ▲

CERAMIC WATER FILTERS install on end of supply pipe

Pipe fitting on one end of this Flo-Clear ceramic water filter facilitates installation on end of any supply pipe where water is being pumped from stream, lake, well, cistern or pool. Unit will filter out all suspended foreign matter such as sand, gravel, grit, algae and insects. It is easily cleaned by reversing flow and backwashing as required. Filters will last indefinitely under normal conditions and are available in coarse, medium and fine grades. Made by **Filtros Inc.**, Dept. N, East Rochester, N. Y.

▲ For more details circle **NED-609 D5** on enclosed inquiry slip ▲

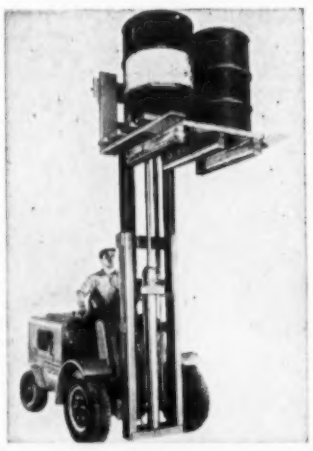
PUSHBUTTON TIMER periods from 20 sec to 24 hours



Improved 110 series pushbutton-operated electrical timer features heavy duty switch, solderless snap-on terminals for easy installation and enclosed switch and gear mechanisms. Units have accurate, fixed timing periods available in from 20 seconds to 24 hours. Telechron synchronous motor operates on 110 or 220-v ac, 25, 50 or 60 cycles. Unit is rated 30 amp and is equipped with tabs for AMP Faston terminals. It can be used in electric hand dryers, room ventilators, air conditioners, dehumidifiers, paint mixing machines, displays, duplicating equipment and in heat treating and lighting. Made by **Miller-Harris Instrument Co.**, Dept. A, 601 E. Ogden Ave., Milwaukee 2, Wis.

▲ For more details circle **NED-610 D5** on enclosed inquiry slip ▲

HIGH-LIFT TRUCK 2-ton model lifts to 108 in.



A new transmission with four speeds forward and reverse, with maximum speed up to 20 mph, is one of several improvements made in the Y-40 outdoor high-lift truck. Standard lift for the 2-ton capacity truck is 108 in. Power is supplied by 40-hp, 4-cylinder, valve-in-head Ford industrial engine. Unit can be specified with either wide or narrow axle, single or dual drive wheels and various fork styles, depending on requirements. Drive wheel tires are 7.50 x 15 for maximum traction. Other features include tilting mast, oversized Ford clutch, heavy duty Timken drive axle and parts accessibility. Made by **Knickerbocker Co.**, Truck-Man Div., 627 Liberty St., Jackson, Mich.

▲ For more details circle **NED-611 D5** on enclosed inquiry slip ▲

ADJUSTABLE DRILLHEAD can drill in irregular hole pattern

Large range of adjustment is built into 20 standard models of this ball bearing double eccentric adjustable drillhead. Models have three, four, six or eight spindles with drilling capacities up to 1 1/16 in. diameter holes in steel. Drillhead can be set to drill, ream, tap or bore in a irregular hole pattern. All spindles have vertical or depth adjustment. Sealed head can be operated horizontally, vertically or inverted on any conventional drilling machine. Special models can be manufactured to specific applications. Made by **Thriftmaster Products Corp.**, 1010A N. Plum St., Lancaster, Pa.

▲ For more details circle **NED-612 D5** on enclosed inquiry slip ▲

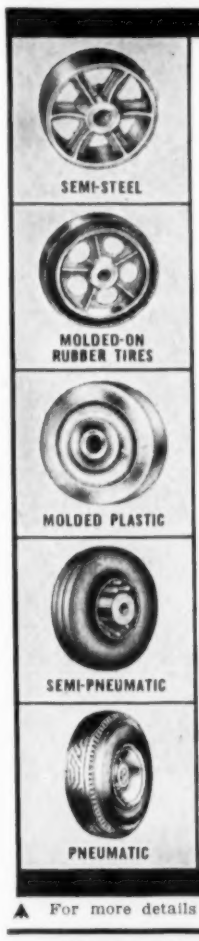
CHOOSE CHALLENGE... and be precision sure!

782

Challenge

THE CHALLENGE MACHINERY COMPANY
Office, Factories and Show Room:
GRAND HAVEN, MICHIGAN
DEALERS IN ALL PRINCIPAL CITIES

▲ For more details circle **NED-613 D5** on enclosed inquiry slip ▲



HAMILTON WHEELS FOR *Every Industrial Use!*

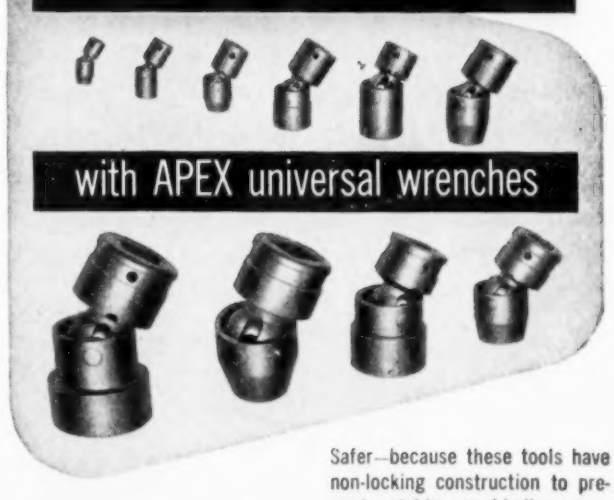
The Hamilton wheel line is extensive and complete! Hundreds of styles, sizes and capacities are offered — including wheels of steel, semi-steel, molded-on rubber-tired wheels, renewable rubber tires, full pneumatics, semi-pneumatics, molded plastic and composition rubber wheels, single and double flange wheels, cart wheels—and many more! If it's industrial wheels you need, *whatever* the application...*whatever* the quantity—get a quotation from Hamilton. Write today and tell us your requirements.

SEND FOR YOUR COPY OF THE HAMILTON WHEEL AND CASTER CATALOG!

Hamilton
CASTER & MFG. COMPANY
1659 Dixie Highway, Hamilton, Ohio

▲ For more details circle **NED-614 D5** on enclosed inquiry slip ▲

REDUCE YOUR NUT RUNNING COSTS with APEX universal wrenches



Nut running is faster and safer with Apex impact quality universal wrenches. Faster—because these tools are designed to provide power closer to the work.

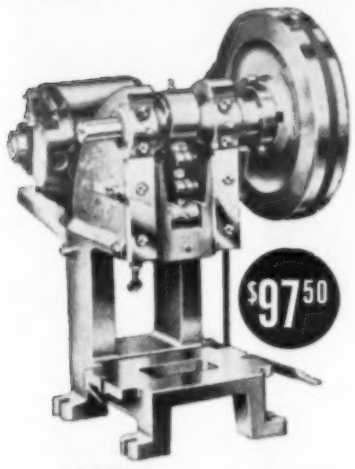
Safer—because these tools have non-locking construction to prevent catching or binding, even when operating at extreme angles. Complete information will be found in Catalog 29. Write, on your company letterhead please, for your copy.

APEX nut running tools
THE APEX MACHINE & TOOL COMPANY
1046 So. Patterson Blvd. • Dayton 2, Ohio

▲ For more details circle **NED-615 D5** on enclosed inquiry slip ▲

CUT COSTS

with **ALLEN** *Punch Press*



2-Ton Power Bench Type

less Motor

- Powerful
- Dependable
- Economical

FREE CIRCULAR

30-Day Money-Back Guarantee
Order TODAY
Price $97.50 F. O. B., Clinton, Mo. (Includes motor bracket, V-belt, motor pulley, less motor)

Dealer Inquiry Invited

For light work — stamping, forming, riveting — metal, fiber or other material.

Overall height 19¾" . . . Base size 9" x 8¼" . . . Die bed 6¼" x 8" . . . Ram face 1½" x 3½" . . . Ram stroke ¾" . . . positive ¾" ram adjustment . . . sturdy, single pin, non-repeat hand lever clutch . . . V-belt drive . . . weight 105 lbs.

Requires only 1/3 H.P. motor.

The machine of a thousand uses! Adequate for many types of work now done on large presses at greater expense.

Alva F. Allen • Dept. NED • Clinton Mo.

▲ For more details circle **NED-616 D5** on enclosed inquiry slip ▲

there's a **THIEF** in your plant!

Like an invisible hand in your safe, **SCRAP** represents the greatest material and man-hour thief of profits in plants big and small in the metal machining industry.

This $5,000 worth of parts was salvaged at 12% of the original cost of parts.

Working with plants throughout the country Elox found these interesting facts . . .

1. Some employees hide scrap
2. Some employees are afraid to report scrap
3. Some department heads won't admit the amount of scrap they actually have
4. Management didn't know how to solve the salvage problem

Today Elox equipped plants salvage 100% of scrap due to broken taps, drills, reamers, etc., profitably. Even on parts costing as little as 25c.

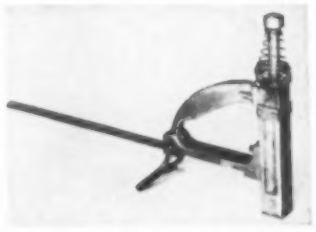
we can show YOU how!

elox corporation of michigan

738 N. Rochester Rd. • Clawson, Michigan

▲ For more details circle **NED-617 D5** on enclosed inquiry slip ▲

NAILING MACHINE doubles normal nailing rate



Operated in any position, this Avalanche nail feeding and positioning machine can double workman's normal nailing rate in shingling, siding and floor fastening operations. Unit stores, feeds and positions nails automatically so that workman needs only to strike generous sized knob with rubber hammer. Feeding and positioning mechanisms are actuated by manual hammering. Device helps improve workmanship, save nails and minimizes eye and finger injuries. Made by **Vera Products,** Dept. N, 4041 Ridge Ave., Philadelphia 29, Pa.

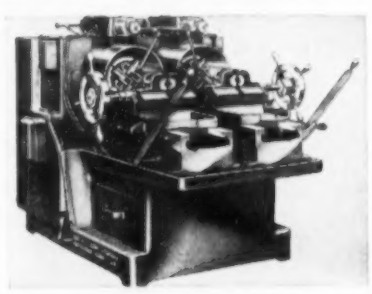
▲ For more details circle **NED-618 D5** on enclosed inquiry slip ▲

TWO-WAY PORTABLE RADIO features three-way power supply

This model A Pak-Fone two-way portable radio can be operated on its own self-contained batteries, from a 115-v ac source or from 6-v storage battery. Unit carries both FCC and FCDA designations and is intended for use in engineering and field construction work, oil field surveys or other operations requiring telephone communications. Unit consists of 8-tube crystal controlled FM transmitter which operates in either 50 or 140 megacycle bands. The 15-tube dual conversion super-heterodyne receiver is also crystal controlled and has special relay which automatically switches off tubes when no incoming signal is present. Made by **Industrial Radio Corp.,** 426 N. Parkside Ave., Chicago 44, Ill.

▲ For more details circle **NED-619 D5** on enclosed inquiry slip ▲

THREADING MACHINE uses tangential or radial chasers



Automatic features required to meet individual needs for quantity production operations can be installed on Acme model XLA threading machines, made in single and double spindle types in 1, 1½, 2 and 2½-in. capacities. Model LLH die head will accommodate either radial or tangential chasers. Machine can be adapted for threading bolts, pipe and studs, as well as for hollow milling and pointing. The revolving die head is opened and closed by a valve and air cylinder-operated machine yoke. Manual or mechanical die head operation is optional, as are electrically operated gripper jaws. Machines with four and eight spindle speeds and 10½ and 14½-in. carriage travels are available. Made by **Hill Acme Co.,** Acme Machinery Div., 1209 W. 65th St., Cleveland 2, O.

▲ For more details circle **NED-620 D5** on enclosed inquiry slip ▲

EXHAUST STACK CAP 11 sizes range from 12 to 48 in.

This stack cap for use in industrial exhaust systems consists of band of 20-gage galvanized steel mounted on an angle iron ring which bolts to similar ring on end of vent. Two galvanized lids within the windband are mounted on brass rod which turns in plastic bearings. Lids open automatically when system is operating and close weather-tight when fan goes off. Stack cap is available in 11 diameters ranging from 12 to 48-in. Made by **Hartzell Propeller Fan Co.,** Dept. G, 1025 Roosevelt Ave., Piqua, O.

▲ For more details circle **NED-621 D5** on enclosed inquiry slip ▲

HANDY GUIDE. *Pocket-sized Osborn Brush Guide helps you select power, paint and maintenance brushes.*

Here's a faster way to clean small machined parts

A SIMPLE fixture made from pipe — plus Osborn Brushes — cuts thread-cleaning time on these set screws 800 per cent.

An Osborn Monitor® Brush spins the screws, cleans them thoroughly. A stationary Osborn Situft® Brush, inserted through the pipe, controls rotation and traverse of the screws across the face of the brush. Other small parts can be cleaned and finished in seconds with this same fixture and Osborn Brushes.

For cleaning and finishing operations—and for plant upkeep, specify Osborn Brushes. *The Osborn Manufacturing Company, Dept. Z-23, 5401 Hamilton Avenue, Cleveland 14, Ohio.*

Osborn Brushes

OSBORN BRUSHING METHODS • POWER, PAINT AND MAINTENANCE BRUSHES
BRUSHING MACHINES • FOUNDRY MOLDING MACHINES

▲ For more details circle **NED-622 D5** on enclosed inquiry slip ▲

Brazing Time Cut in Half

Turbojet maker speeds production, gets better results — with Allis-Chalmers Induction Heaters

This job involves brazing shrouds to blade tips in an assembly for turbojet engine compressors. The manufacturer switched from hand methods to Allis-Chalmers Induction Heating.

RESULTS . . . Brazing time cut by 50% . . . more uniform brazes . . . pull test loadings average 33% above required minimum.

What's your Job? If your work involves brazing, soldering, annealing, heating and/or hardening, get the facts on Allis-Chalmers Induction Heaters. See how you, too, can save time and money, get better results, minimize material waste. Contact your nearby Allis-Chalmers District Office or write Allis-Chalmers, Milwaukee 1, Wisconsin.

ALLIS-CHALMERS A-C A-4579

▲ For more details circle **NED-623 D5** on enclosed inquiry slip ▲

At an average cost of less than $10 per machine NOW you can REDUCE VIBRATION SIMPLIFY INSTALLATION with **UNISORB**® Mounting Pads

Your first saving with this modern machine installation method is in the cost of the UNISORB mounting pads . . . an average of less than $10. per machine. And savings in first cost are only the start.

Add to that the saving of 10% to 30% in cost of time and labor for installation, plus the advantage of eliminating up to 85% of transmitted machine vibration. Get the facts about installing your lathes, presses, grinders, etc. on UNISORB.

Return the coupon today for your free copy of FACTS ABOUT ANCHORING YOUR MACHINES ON UNISORB.

The **FELTERS** Company
224 South Street, Boston 11, Mass.

Please send my free copy of FACTS ABOUT ANCHORING YOUR MACHINES ON UNISORB.

Name.....Title.....
(Please Print)

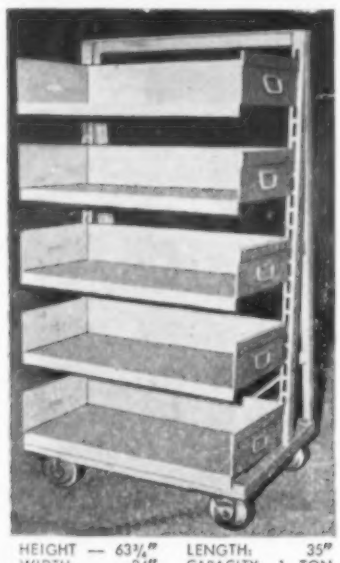
Company.....

Address.....

City.....Zone....State.....

Return to The FELTERS Company
224 South Street, Boston 11, Mass.

▲ For more details circle **NED-624 D5** on enclosed inquiry slip ▲



VER-T-RACK

- EXPEDITES MATERIALS UP TO 60% FASTER
- SAVES MAN HOURS
- SAVES FLOOR SPACE
- ELIMINATES MATERIAL DAMAGE
- REDUCES WORKER FATIGUE
- GREATER SAFETY FACTOR
- MAXIMUM EFFICIENCY AT MINIMUM COST

HEIGHT — 63¾" LENGTH: 35"
WIDTH: 24" CAPACITY: 1 TON

Equipped with 6" roller bearing steel wheel casters

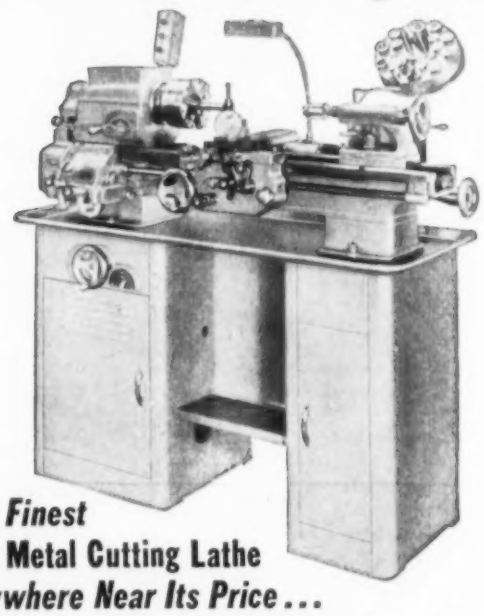
VER-T-RACK can be handled with lift truck.
Trays are adjustable on **VER-T-RACK**

ONLY **$45** Plus $5.50 for each tray open as shown or semi-closed

THE VINCE BASNIK CO.
2020 Center St., Dept. N. Cleveland, O.

▲ For more details circle NED-625 D5 on enclosed inquiry slip ▲

The *New* Rockwell-built DELTA 11" Metal Cutting Lathe



The *Finest* 11" Metal Cutting Lathe *Anywhere Near Its Price...*

After five years of intensive development . . . after many months of testing under actual production line and tool room conditions . . . the new DELTA 11" Metal Cutting Lathe is ready for you to see, to use, *to compare with any other metal cutting lathe of comparable size.* You'll see why it's the finest 11" metal lathe on the market today.

...with Quality Features Found in No Other Lathe AT ANY PRICE:

EXCLUSIVE BACK GEAR SHIFT LEVER. Eliminates need for using wrenches, pulling out pins, or opening guards to shift from direct spindle drive to back gear spindle drive, loose or locked spindle.

PERFECTED VARIABLE-SPEED DRIVE. Range of 45 to 1550 rpm with an infinite choice in that range . . . *plus* the high torque transmitting power of matched V-belts. *No other lathe gives you this combination of power and convenience!*

CHOICE OF SPINDLE NOSES. Only Delta gives you choice of safe L-00 Tapered Key Drive or conventional 2¼"-8 Threaded Spindle Nose, *at no extra cost.*

SEEING IS BELIEVING . . . *Send the coupon for the name of the Delta Dealer nearest you who has this new lathe development on display and available for immediate delivery.*

DELTA ROCKWELL **DELTA** QUALITY POWER TOOLS
Another Product by **Rockwell**

DELTA QUALITY COSTS NO MORE

Delta Power Tool Division, Rockwell Manufacturing Co.
626D N. Lexington Ave., Pittsburgh 8, Pa.
☐ Send name of nearest Delta Dealer who has the new Delta 11" Metal Cutting Lathe under power.
☐ Send catalog information on new Delta 11" Metal Cutting Lathe.
Name_____ Title_____
Company_____
Address_____
City_____ County_____ State_____

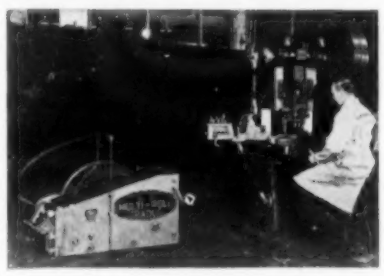
▲ For more details circle NED-626 D5 on enclosed inquiry slip ▲

POWERED WHEELBARROW
has 4-cycle, 2½-hp motor

Easy-to-start 4-cycle, 2½-hp gasoline engine with special muffler that eliminates carbon monoxide fumes powers this Workhorse wheelbarrow, capable of carrying a 400-lb load up a 16 per cent grade with little effort. Throttle and clutch controls are located on handles, making starting and speed control smooth and easy. Semipneumatic drive wheels have thick tractor tread for traveling over rough, irregular ground. Rear caster wheel steering is done with no danger of spilling load, and enables wheelbarrow to be spotted into position. By pulling a catch and lifting lightly on a handle at rear of tray, load can be dumped without effort. Made by **Worthington Mower Co.**, 122 N. Second St., Stroudsburg, Pa.

▲ For more details circle NED-627 D5 on enclosed inquiry slip ▲

ROLL STOCK CRADLE
delivers stock at up to 80 fpm

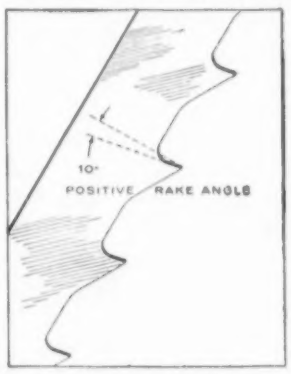


Coiled stock can be unwound in a steady, smooth run under complete control for feeding into forming machinery by this Multi-Roll cradle. Geared ⅓-hp, 155-rpm motor provides stock output speeds up to 80 fpm. Loop control arm connected to a Micro Switch automatically starts and stops motor operating the power-driven rolls. Two inner frames are individually adjustable by cranks for stock widths up to 9 in. and up to ⅛-in. thick. Coils up to 40 in. OD and weighing 1500 lb can be handled. Model ACC-1-9C has four power-driven coil rest rolls, plus two power-driven take-out rolls, while model Acc-1-9NT has the four coil rest rolls only. Made by **U. S. Tool Co.**, Dept. N, Ampere (East Orange), N. J.

▲ For more details circle NED-628 D5 on enclosed inquiry slip ▲

BAND SAW BLADE
used with heavy feed pressures

Equally effective in large ferrous sections where heavy feeding pressures are required, or in wood, plastics and nonferrous metals, this "hook tooth" band saw blade has from two to six widely-spaced teeth per inch. Each tooth has a positive rake which "hogs" into the work, permitting rapid rate of feed and free-cutting action. Blade has a flexible back with each tooth hardened to 62-65 Rockwell C. Widths from ¼ to 1 in. are offered in 100, 250 and 500-ft coils and cut-to-length welded bands. Made by **Henry G. Thompson & Son Co.**, Dept. NED, Chapel & Mill Sts., New Haven 5, Conn.



▲ For more details circle NED-629 D5 on enclosed inquiry slip ▲

POWER LOADER
has tip-back bucket operation

Easy, fast loading of large loads is afforded by bucket design of this TL-12 Tracto-Loader which gives as much as 25-degree tip-back at ground level. With this improved four-wheel drive, 1-cu yd loader, operator can scoop or jockey a load into the bucket by operating the tip-back control lever. This is useful in small piles. During the bucket-raising cycle, the amount of tip-back is increased automatically to improve heaped load retention ability. Another advantage is a practical carrying height of 3 ft to assure operator vision as well as balance and stability. Made by **Tractomotive Corp.**, Dept. NED, Deerfield, Ill.

▲ For more details circle NED-630 D5 on enclosed inquiry slip ▲

REED DU-ALL CHAIN WRENCH

Turns Any Shape...

Works where an ordinary wrench won't!

This new REED wrench does everything a conventional pipe wrench will do, plus a great deal more. It gets into tight corners, close to baseboards or between parallel pipe lines and holds round, square or irregular shapes firmly, without "play" and without crushing. Its fast, ratchet action lets you turn either way from either side. You can tighten and "back-off" without taking the wrench from the pipe. 14", 18" and 24" lengths.

Ask your distributor or write for literature.

REED MANUFACTURING COMPANY
ERIE • PENNSYLVANIA • U. S. A.

▲ For more details circle NED-631 D5 on enclosed inquiry slip ▲

ANOTHER **FLASH-O-LENS** AT WORK INSPECTING FILAMENT GUIDES AT

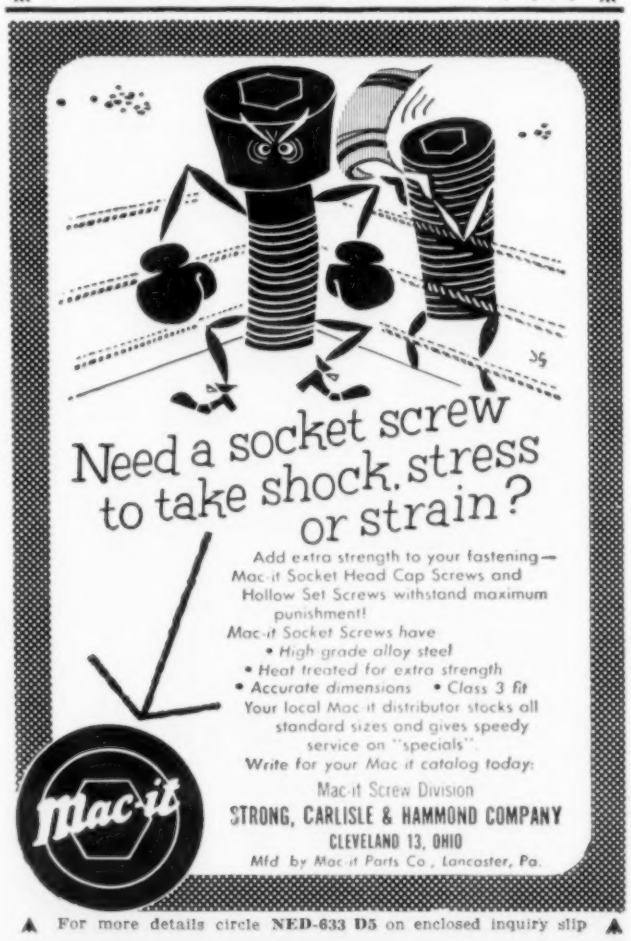
Celanese Corporation

Lighting and *magnifying* the inspection area, FLASH-O-LENS speeds and simplifies the checking of filament guides on the coning machines at the Narrows, Va., plant of Celanese Corporation of America. That's just one of the many, many jobs on which FLASH-O-LENS is being used because its built-in bulb gives bright illumination — and its accurately ground lenses assure sharply detailed enlargement.

Battery and plug-in models available — priced from $10.95. Write for literature and prices.

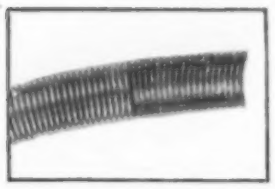
E. W. PIKE & CO., Inc.
492 NORTH AVENUE ELIZABETH 3, N. J.

▲ For more details circle NED-632 D5 on enclosed inquiry slip ▲



▲ For more details circle NED-633 D5 on enclosed inquiry slip ▲

FLEXIBLE STAINLESS STEEL TUBING CONVEYS CORROSIVE MATERIALS AT HIGH TEMPERATURES



- stands up under continuous flexing
- absorbs severe vibration
- compensates for misalignment
- is easily installed

American Flexible Stainless Steel Tubing was developed to convey a wide variety of searching and corrosive liquids and gases at high temperatures. It's made in stainless types 316 and 321 in sizes ¼" I.D. and up. Quality materials and careful manufacture assure leakproof operation. Wire braid covering adds strength for high-pressure applications. Assemblies include fittings attached by Heliarc welding or silver brazing. 55184

FREE FOLDER: Four-page folder gives engineering data on construction and types. Includes pressure ranges, data on fittings. Write today for your copy of Bulletin STC-1. Address The American Brass Company, American Metal Hose Branch, Waterbury 20, Conn.

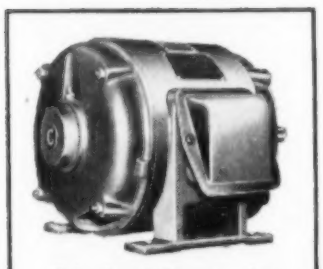
WHEREVER CONNECTORS MUST MOVE

AMERICAN flexible metal hose and tubing

an **ANACONDA**® product

For more details circle **NED-634 D5** on enclosed inquiry slip

An Open AND Closed Case IN FAVOR OF Century Performance-Rated© MOTORS



Drip Proof Frame . . . for standard installations.

Dust Proof Frame . . . totally-enclosed, fan-cooled to seal out harmful dust, grit or vapors.

Century's new *smaller* and *lighter* integral horsepower motors are available in your choice of drip-proof or totally-enclosed-fan-cooled frames.

In either case, you get the same Century engineering improvements, including 6-way Century insulation featuring tougher "mylar" slot insulation. When the application demands it, you can have your motors Performance-Rated to seal out dust, grit or vapors . . . simply by specifying the TEFC frame.

Whatever your application, you can get precisely the right motor size, speed, enclosure, mounting and torque characteristics with the help of Century Performance-Rating. For information and assistance, contact your nearby Century Sales Office or Authorized Distributor.

Performance-Rated© Motors 1/8 to 400 H. P.

CENTURY ELECTRIC COMPANY

1806 Pine Street • St. Louis 3, Missouri
Offices and Stock Points in Principal Cities 14

For more details circle **NED-635 D5** on enclosed inquiry slip

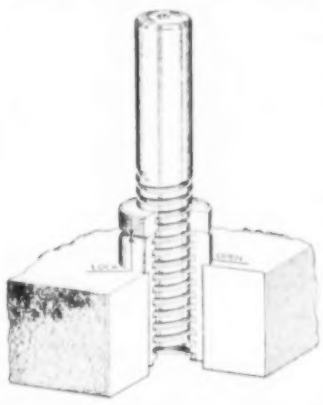
WIRE MESH BASKETS in ⅜, ¼ and ⅛-in. mesh openings

Two standard and several special styles and sizes of wire mesh baskets are offered in ⅜-in. standard, as well as ¼ and ⅜-in. mesh openings. Model A-104 illustrated measures 23 x 13 x 5 in. and weighs 8½ lb, while model B-104 measures 14 x 13 x 5 in. Baskets have rigid welded frames with floor runners and will stack easily. Storage types with spout ends to allow easy spot checking as well as special wire inserts coated with Plastisol to hold parts going through acid baths and other operations are available as well. Made by **Jaxon Wire Products**, Dept. C, 1705 Probert Rd., Jackson, Mich.

For more details circle **NED-636 D5** on enclosed inquiry slip

REMOVABLE GUIDE PIN adjusts to shut height of die

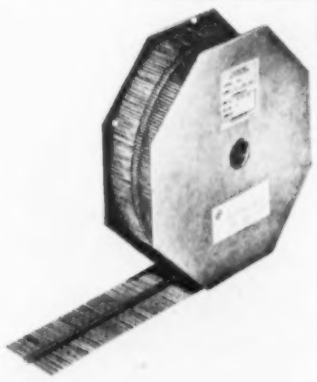
Improved Spira-Lock removable guide pin permits easily variable adjustment to die shut height. Designed with threaded end to fit a threaded bushing, it is adjusted by screwing the pin into the bushing to the desired height. Press fit obtained when pin is pressed or driven into the bushing thread is retained by a lock nut. Removal from top or bottom is by driving pin down until threads are again in line, then unscrewing. Both pin and bushings are made of hardened steel, with 0.0005-in. clearance between components. Made by **Superior Steel Products Corp.**, 2755 S. Nineteenth St., Milwaukee 7, Wis.



For more details circle **NED-637 D5** on enclosed inquiry slip

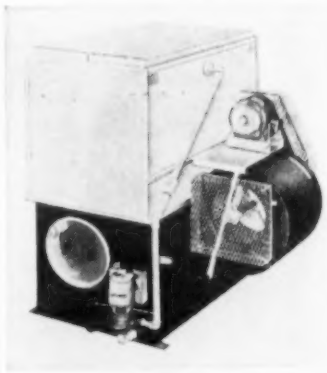
FIXED RESISTORS packaged on octagonal reels

Standard ½, 1 and 2-w fixed resistors for use on automatic assembly lines are now provided on octagonal 12-in. reels. Each reel contains 5000 ½-w resistors, 2000 1-w or 1000 2-w resistors. Resistors are attached to adhesive surface of pressure sensitive tape, which adheres only to body of resistor, not to the leads. The expendable reel consists of pair of octagonal corrugated board ends with metal bearings for use with 9/16-in. mandrels. Made by **Allen-Bradley Co.**, 1334 S. Second St., Milwaukee 4, Wis.



For more details circle **NED-638 D5** on enclosed inquiry slip

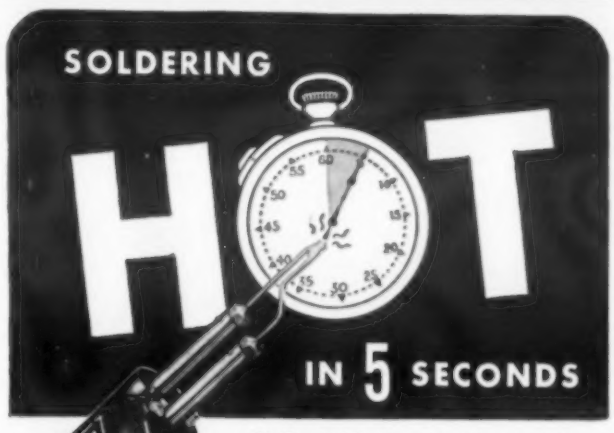
CONDENSERS & COOLING TOWERS for refrigeration, air conditioning



Heavy-duty construction, long service life, ease of maintenance and resistance to corrosion are features of Mighty-Mite evaporative condensers and cooling towers. Usable with either Freon or ammonia, they have capacities from 10 to 50 tons of refrigeration in 5-ton increments. All parts in contact with air, refrigerant or weather are protectively coated with galvanizing, aluminum paint or mastic and are removable or readily accessible for ease of servicing and maintenance. Made by **Baltimore Aircoil Co.**, 1635 Mathews St., Baltimore 18, Md.

For more details circle **NED-639 D5** on enclosed inquiry slip

SOLDERING HOT IN 5 SECONDS



Weller Soldering Guns heat, cool *quickly*—therefore ideal for *intermittent* soldering. Choose from 4 models with heat range from 100 to 275 watts, including dual heat types. Also . . .

- Dual spotlights focus on your work
- Streamlined design reaches hard-to-get-at places
- Triggermatic heat control is instantly on or off.

See Your Distributor or Write for Catalog Bulletin

Weller SOLDERING GUNS
808 Packer Street • Easton, Pa.

For more details circle **NED-640 D5** on enclosed inquiry slip

Speed your 1955 Traffic with a 29 year old idea

Above is one of seven Nutting Tow-line Systems currently saving 25% on handling costs for Consolidated Freightways, Inc.

Nutting has been designing trucks for use with overhead or under-floor conveyors since 1926 and now provides 13 standard models with 5 types of tow mechanisms. Whether you have or are considering an overhead or under-floor system, whether your loads are 300 or 3,000 lbs., Nutting has the trucks for the perfect solution to your materials handling problem. Write for Bulletin 54-TL or call your Nutting Sales Engineer—he's listed under "Casters" or "Trucks" in your classified directory.

Export Sales Representative: School International, Inc. 4261 North Lincoln Ave., Chicago 18, Ill.

Nutting Since 1891

NUTTING TRUCK & CASTER CO.
3110 DIVISION ST., FARIBAULT, MINN.

For more details circle **NED-641 D5** on enclosed inquiry slip

WHAT'S YOUR filtration problem?

Whether it's acid or tar – if you can pump it, Cuno can filter it.

Cuno filters in all sizes and materials are ready to take on the toughest jobs for you.

Why not mail the coupon today for our free Filtration Analysis Form? 4.14

CUNO ENGINEERED FILTRATION

CUNO ENGINEERING CORPORATION
Dept. 7014, South Vine Street, Meriden, Conn.

I'm interested in effective filtration of oil ☐ water ☐ chemicals ☐ air ☐ _____ (other fluid) ☐

Please send me your Filtration Analysis Form.

Name _____
Company _____
Address _____
City _____ Zone ____ State _____

For more details circle **NED-642 D5** on enclosed inquiry slip

27 Speed Sweep styles and sizes to meet every sweeping need. Write for prices today.

MILWAUKEE DUSTLESS BRUSH CO.
530 N. 22nd Street *Milwaukee 3, Wis.*

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call for

KEM LUSTRAL®

—the ONE custom-quality industrial enamel that does the job of NINE!

Just ONE close-at-hand industrial enamel—KEM LUSTRAL—today can prove the answer to MANY of your present finish problems.

KEM LUSTRAL combines, in one material, a range of usefulness that usually could only be obtained with several. It can be brushed, sprayed or dipped—air dried or baked. It is equally useful as a product finish or for maintenance. It provides enduring protection—brilliant, sales-stimulating color—for thousands of products, both wood and metal.

KEM LUSTRAL is locally available through Sherwin-Williams Branches throughout the country. Call your nearby Branch or write for color card and details.

SHERWIN-WILLIAMS
INDUSTRIAL FINISHES

The Sherwin-Williams Co.
General Industrial Division, Cleveland 1, Ohio

Please send details on KEM LUSTRAL—also on other items checked.

Other S-W Industrial Finishes
- ☐ Furniture Finishes
- ☐ Dimenso® (Hammered Finish)
- ☐ Industrial Lacquer
- ☐ Fast Bake Enamel

NAME _____
COMPANY _____
ADDRESS _____

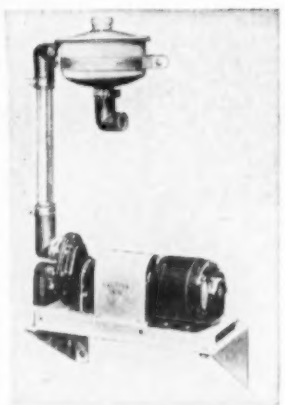
▲ For more details circle **NED-644 D5** on enclosed inquiry slip ▲

TWO-WAY MOBILE RADIO
450-460 or 460-470 megacycle bands

This Fleetway two-way radio is designed for operation in FCC's recently allocated 450-460 and 460-470 megacycle bands. Wide open channels and easy licensing requirements are provided by these ultra high frequency bands to any plant that wishes to use mobile radio for greater efficiency and control over various operations, such as materials handling, dispatching and routing of truck fleets or maintenance work. "Lister Circuit" is relatively inexpensive. A 4 to 5-w model for under-dash or trunk mounting and a 25 to 30-w model are offered. Plug-in power supplies are interchangeable in units for 6 and 12-v operation in the latter model and 6, 12 and 32 v in the former, 4-5-w model. Made by **Connecticut Telephone & Electric Corp.,** 95 Britannia St., Meriden, Conn.

▲ For more details circle **NED-645 D5** on enclosed inquiry slip ▲

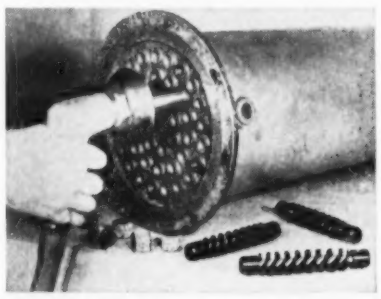
CHEMICAL FILTRATION SYSTEM
has capacity of 5 gpm



Continuous filtration to remove undissolved foreign matter and sludge from chemical solutions is provided by this circulation-filtration system. It also provides, through use of corrosion-resistant pump, constant circulation for even chemical strength. System is easy to install and has a 5-gpm capacity. It is used with photographic and x-ray processing equipment and can be adapted to industrial uses. Made by **Pako Corp.,** 1096 Lyndale Ave. N., Minneapolis, Minn.

▲ For more details circle **NED-646 D5** on enclosed inquiry slip ▲

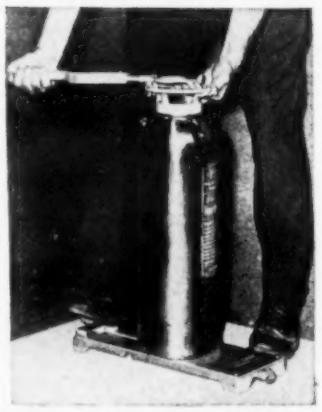
BLOW GUN CONDENSER CLEANER
uses plug or brush projectiles



Mud, algae and similar accumulations can be reremoved from condenser assemblies with this Blo-Gun cleaner which makes use of plug shooting or washing method. Gun weighs only 2 lb and has aluminum housing with removable bronze nozzle and rubber spray shield. Corded-rubber plug or nylon spiral brush projectiles are furnished with ½ to 1-in. OD. Plug or brush is first placed in tube, nozzle of gun is inserted and, by continued forward movement, compressed air or water is released, propelling accessory through tube in less than a second. Made by **Thomas C. Wilson, Inc.,** 21-11 44th Ave., Long Island City 1, N. Y.

▲ For more details circle **NED-647 D5** on enclosed inquiry slip ▲

EXTINGUISHER SERVICING TOOLS
are impact wrench and gripper base



Designed for use by industrial and commercial firms that service their own fire extinguishers, this extinguisher service device consists of a stainless steel impact wrench and adjustable aluminum gripper base. Any extinguisher from 1½ to 2½-gal size is gripped in base with foot-controlled brake. Impact wrench unscrews even the most stubborn heads without damage to extinguisher. Offered by **Central Safety Equipment Co.,** E. Huntingdon & Sepviva Sts., Philadelphia 25, Pa.

▲ For more details circle **NED-648 D5** on enclosed inquiry slip ▲

DECKER INDUSTRIAL FASTENERS

Decker Clinch Nuts are manufactured in a broad range of sizes to meet and speed every type of assembly operation. They are faster, easier to install . . . accurate and dependable. Cold-heading process affords extra-strong neck for clinching attachment. Double flat or plated clinch nuts available.

Whether you use cold-headed Pipe Plugs, Weld Nuts, hex type nuts or other special fasteners, Decker Industrial Fastener will add new efficiencies to your manufacturing and assembly operations.

Request your copy of Decker's big illustrated Industrial Fastener catalog . . . today!

DECKER MANUFACTURING COMPANY
ALBION, MICHIGAN

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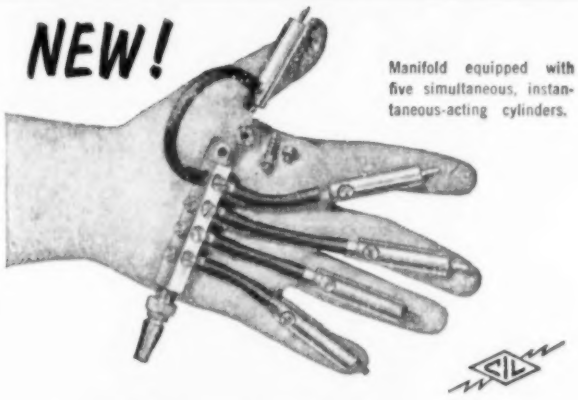

"Helping Hands" for Hundreds of Jobs!

Now . . . miniature pneumatic cylinders . . . smaller than your fingers, with power to do hundreds of activating, holding, control, or feeding jobs. In electrical or mechanical testing, assembly, control, holding or work feeding setups . . . operated automatically or by foot valves . . . they help you produce better products, faster at lower cost by supplying workers with extra fingers and hands!

The Clippard Miniature Pneumatic Cylinder is just 2¼" long x 7/16" diameter with maximum ⅛" stroke and spring return; operates from air line on as little as 12 psi. 12-port manifold and complete line of fittings available.

Illustrated literature, including power and static data, dimensional drawings, specifications and price list . . . free on request by writing.

Clippard INSTRUMENT LABORATORY, INC.
7390 Colerain Road, Cincinnati 24, Ohio
Manufacturers of R. F. Coils and Electronic Equipment

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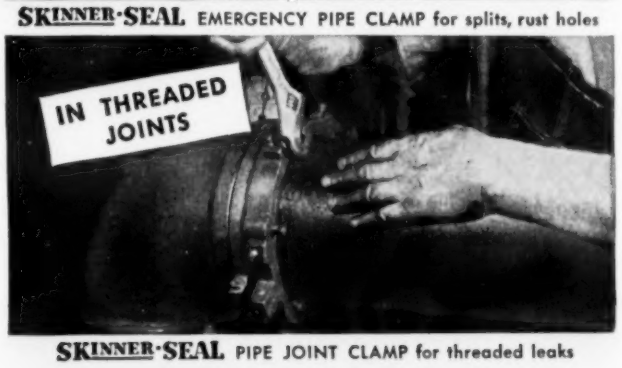
STOP LEAKS!

SKINNER-SEAL EMERGENCY PIPE CLAMP for splits, rust holes



SKINNER-SEAL PIPE JOINT CLAMP for threaded leaks

Positive, permanent repair—any temperature or pressure. Absolutely dependable. Sizes 1/2" to 12". In stock most mill supply stores. Write for catalog.

M. B. SKINNER CO., South Bend 21, Ind.—Established 1898

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Spindles like These

GIVE YOU PRECISION AND PROFIT FROM YOUR GRINDERS!

Select yours from *hundreds* of Ex-Cell-O precision grinding spindles—all standard models. For years they've been the original equipment choice of leading grinder manufacturers. There's *full information* in the 80-page Ex-Cell-O Spindle Catalog. Write us to send it!

54-9

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

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Bond® SPEED REDUCERS

SPEND EXTRA "BIRTHDAYS" ON THE JOB

Yes, babies grow up into men in the service lifetime of a Bond Speed Reducer. Proof of this can be found in factories across the nation. In one plant, a Bond Speed Reducer has given faithful service for 75,240 hours—and that's something to remember when you decide on speed reducers for the equipment you design. Remember, too, that the recognized quality of Bond Speed Reducers adds a selling "plus" to equipment on which they are used.

There's no secret about the reason why Bond Stock Speed Reducers give you extra years of dependable service. It's as simple as this—each precision-built Bond Stock Speed Reducer is properly designed and rated for its particular job.

The day a right-for-the-job Bond Speed Reducer is properly installed on a machine, any concern about that particular speed reducer can be forgotten for years. Get full details on these long-life speed reducers by writing for Bond Catalog 67 today.

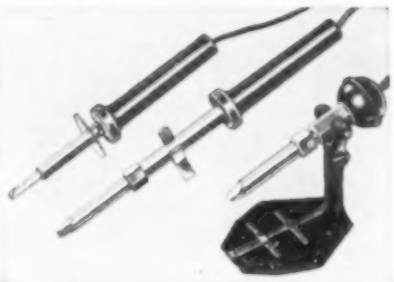
Carried in stock by
DISTRIBUTORS IN PRINCIPAL CITIES
Consult your local Classified Directory or write to

CHARLES BOND COMPANY
617-23 Arch Street, Philadelphia 6, Pa.

Bond® STOCK GEARS SPEED REDUCERS

▲ For more details circle NED-653 D5 on enclosed inquiry slip ▲

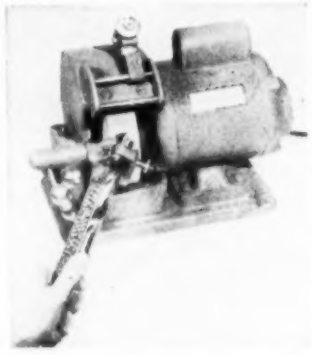
INDUSTRIAL SOLDERING IRONS
in pencil, straight and stand types



Adaptable to all types of industrial soldering operations, line of soldering irons operates on 110-115-v ac or dc. Variety of tips and temperatures meets needs of work ranging from miniature subassembly to heavy duty maintenance. The R-130 pencil iron maintains a constant tip temperature of 850° F while drawing 18 w. It has eight nickel-plated tips ranging in diameter from 1/8 to 3/8-in. and is designed for tiny soldering jobs. Model R-125 straight iron has tip temperatures of 550°, 650°, 825° or 910° F and seven interchangeable tips. Model R-120 stand iron for bench work has same ratings as the model R-125 and will use the same seven tips. Made by **Snap-on Tools Corp.**, Dept. NED, 8028 28th Ave., Kenosha, Wis.

▲ For more details circle NED-654 D5 on enclosed inquiry slip ▲

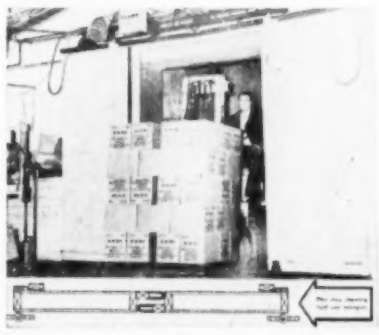
DRILL GRINDER
for straight or taper shank drills



Two, three and four-flute twist drills ranging in size from 1/8 to 1 1/2-in. diameter with either straight or taper shanks can be sharpened accurately on this model 300 Keyco drill grinder. Only two holders are needed for entire range. An infinite range of point angles for drilling different materials is instantly available with a simple knob adjustment. Compensation for wheel wear is made automatically, and a built-in dresser is standard. Power is supplied by 1/2-hp 110-v 60-cycle totally-enclosed motor with sealed ball bearings. Offered by **Keystone Grinder & Mfg. Co.**, Dept. N, Vermont Ave. Extension, Rochester, Pa.

▲ For more details circle NED-655 D5 on enclosed inquiry slip ▲

REFRIGERATOR DOOR
automatic, electrically operated



Fiberglas insulation of the recommended thickness is used in section of Prest-O-Matic electrically operated automatic refrigerator door. Rubber sealing gaskets provide tight closure automatically. Door opens and closes in 3 or 4 seconds, averaging less than 10 seconds for passage of lift trucks. Control by approach pull cord or pushbuttons does not require truck operator to leave his vehicle or stop to actuate the doors. Freezer doors are made as packaged units, including motor operator, frame, insulated door sections, hardware and controls. Made by **Clark Door Co.**, 183 Rose St., Newark 8, N. J.

▲ For more details circle NED-656 D5 on enclosed inquiry slip ▲

CHEMICAL GOGGLES
feature wide range of vision

Workers in dusty air or near splashing liquids are given eye protection by the No. 100 chemical goggle. Contoured to fit the face, it is molded from soft and flexible synthetic rubber and can be worn over most glasses. Wide transparent plastic window gives full width vision. Baffled ventilator holes permit air circulation and prevent fogging. Elastic headband is adjustable and window is replaceable. Made by **Chicago Eye Shield Co.**, 2335 W. Warren Blvd., Chicago 12, Ill.

▲ For more details circle NED-657 D5 on enclosed inquiry slip ▲

ALL STEEL CONSTRUCTION
rugged, dependable
SPACE SAVING CYLINDERS
for better design

ONE WEEK DELIVERY
CARTER

You get these features

- Full 1 to 1 cartridge rod bearings
- Key type stainless steel lock ring
- Cup or piston ring construction
- Self-adjusting spring loaded packing
- Heavy wall tubing . . . 6 to 1 safety factor
- 40% less mounting space
- Cylinders with built in valves

CYLINDERS • AIR and HYDRAULIC

The most compact, powerful, dependable and efficient cylinders available. Any product is better and easier to maintain if it's Carter equipped. No matter what your application, there is a Carter cylinder to fit your product. Call us in today. You'll be glad you did.

ALL NEW LOW COST CLAMP CYLINDER
Write For Details

SEND FOR COMPLETE CATALOG FILE

Carter Controls, inc.
2876 BERNICE ROAD, LANSING, ILLINOIS
PHONE 1305

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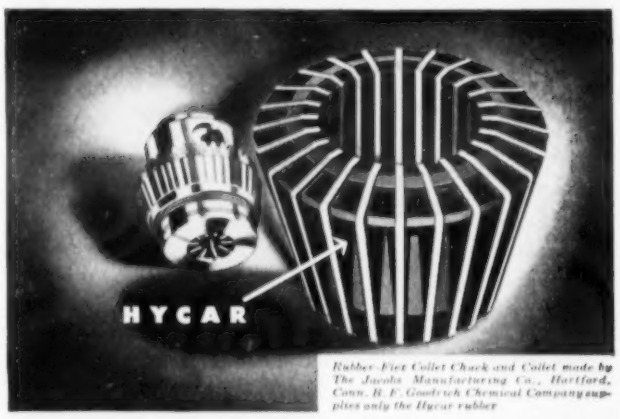
Another new development using
B. F. Goodrich Chemical *raw materials*



Rubber-Flex Collet Chuck and Collet made by The Jacobs Manufacturing Co., Hartford, Conn. B. F. Goodrich Chemical Company supplies only the Hycar rubber

Rubber-Flex Collet grips steel or glass

THE new Rubber-Flex collet chuck has the tightest, most accurate grip ever devised. The credit goes to Jacobs, a name famous in chucks, and to Hycar, a name famous in rubber.

Rubber-Flex collets, made with Hycar American rubber, have a capacity range eight times that of ordinary collets. They grip tools or work, solid stock or thin-wall tubing, compressible or brittle materials . . . even glass and ceramics. The Hycar withstands vibration, shock, and torque . . . resists lube and cutting oils . . . keeps its strength and flexibility at high temperatures.

Versatile Hycar, used in many industries, is ready to improve an operation or produce a superior product for you. For complete information, please write Dept. CH-2, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

B. F. Goodrich Chemical Company
A Division of The B. F. Goodrich Co.

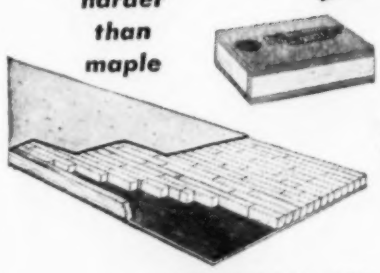
Hycar American Rubber

GEON polyvinyl materials • HYCAR American rubber and latex • GOOD-RITE chemicals and plasticizers • HARMON colors

▲ For more details circle NED-659 D5 on enclosed inquiry slip ▲

Write Today for FREE SAMPLE

30% harder than maple



of this NEW MIRACLE Resinwood®

ShopTop
HARDER THAN MAPLE
WORKBENCH TOP

for INDUSTRIAL USE — for NEW OR REPLACEMENT BENCHES

ShopTop is tough, warp-free, splinter-proof, and 30% harder than rock maple. The smooth Resinwood facings resist alkali, acid, oil, and grease.

Excellent for new or replacement workbenches. Available in a wide range of stock sizes. Write today for a Free Sample of the New Resinwood Workbench Top, ShopTop.

Available through selected industrial distributors in principal cities or write direct for complete information.

QUALITY Since 1868 RIMCO MILLWORK

ROCK ISLAND MILLWORK COMPANY
RESINWOOD DIVISION
Rock Island 4 Illinois

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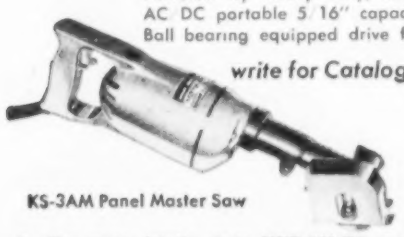
There's an Easier Way!...

No need to "work like a beaver" on cutting jobs. Now . . . zip through 3/16" aluminum, Fiberglas, plastics, plastic laminates, even 16-gauge steel, with minimum effort . . . maximum speed. Its performance is outstanding on metal laminates such as Mirawal, Metlwal, Met-L-Wood and Amorply. Two-inch diameter saw blades give full ⅜" depth cut. Leaves accurate, smooth milled edge that requires no sanding or finishing. Amazingly easy to use . . . extra rugged for long, hard service.

Powered by heavy duty, industrial type 110 volt AC DC portable 5/16" capacity electric drill motor. Ball bearing equipped drive for smoother operation.

write for Catalog E-16

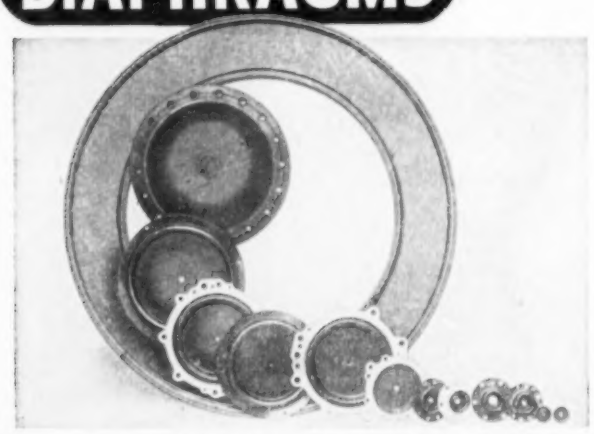


KS-3AM Panel Master Saw

THE KETT TOOL COMPANY
5 East Third St.
Cincinnati 2, Ohio

▲ For more details circle NED-661 D5 on enclosed inquiry slip ▲

DIAPHRAGMS



FOR ALL INDUSTRIAL APPLICATIONS

One of Acushnet's many specializations is in the field of diaphragms. We have achieved notable success in the design, development and molding of all types of diaphragms, with or without fabric inserts, from the size of a dime up to three feet in diameter.

Special stocks are expertly compounded with properties to resist various fluids and gases, extreme high or low temperatures, or combinations of these requirements. We are equipped to produce rubber diaphragms bonded to metal.

Acushnet PROCESS COMPANY

Send for your copy of the Acushnet Rubber Handbook, a comprehensive rubber data reference for all types of molded rubber parts.

Address correspondence to 782 Belleville Ave., New Bedford, Mass.

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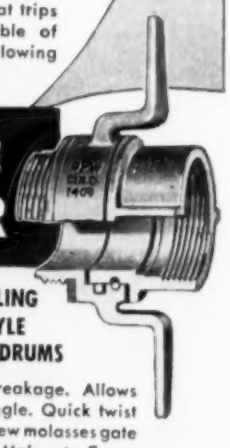
OPW AUTOMATIC BARREL FILLER

QUICK FILL . . . NO OVERFLOW

Complete automatic shut-off at any point of adjustment. Controlled fill level. Liquid actuates float that trips automatic mechanism. Capable of handling light or heavy flowing liquid even to gas tar.

OPW MOLYGATE DRUM COUPLER



FOR QUICK COUPLING OF MOLASSES STYLE GATE VALVES TO DRUMS

Saves time and breakage. Allows discharge at any angle. Quick twist disconnects. Just screw molasses gate valve or faucet into Molygate Coupler. Eliminates wrenching, pounding and stripped threads.

OPW CORPORATION
2729 Colerain Ave. Cincinnati 25, Ohio

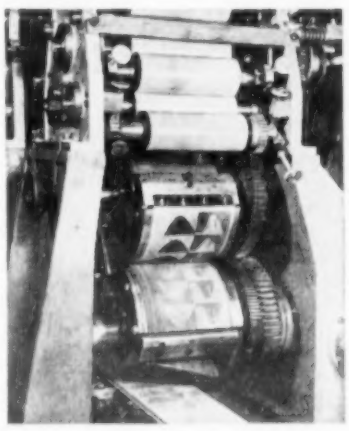
▲ For more details circle NED-663 D5 on enclosed inquiry slip ▲

DISK GRINDER
uses abrasive coated cloth

Over 18,000 fpm is perimeter speed of the Neeco-2-Twenty disk grinder which uses abrasive coated cloth on its two 20-in. diameter disks. Machine is powered by a 10-hp motor, adequate to handle the heaviest material removal loads without reducing disk speed. Coarse grit abrasive can be used on one wheel and fine grit on the other. Ferrous and nonferrous metals, plastics, ceramics, leather, hard rubber, wood, paper and other materials can be ground. Machine is designed to house its own dust collector (optional equipment. Made by **New Era Engineering Co.,** Dept. G-49, 458 W. 29th St., Chicago 16, Ill.

▲ For more details circle NED-664 D5 on enclosed inquiry slip ▲

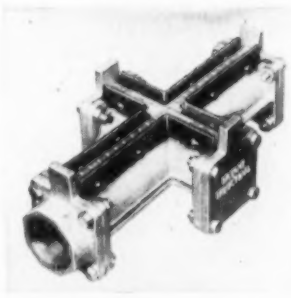
OFFSET PRINTING PRESSES
print up to five colors at one time



Dry offset (high etch) printing presses are available with one to five heads for printing up to five colors on a 6 x 5½-in. bleed surface. Intended for short and medium runs, they can be modified to increase this width. Speed is at rate of 9000 impressions per hour per color with excellent color registration. Ten-roller ink distribution system on each head provides good ink coverage. Small plates of 0.025-in. magnesium or zinc, etched to depth of 0.011-in., are comparatively inexpensive and require little make-ready. Available from **Ferguson Machine & Tool Co.,** Roller Gear Div., Dept. 101, P. O. Box 191, St. Louis 21, Mo.

▲ For more details circle NED-665 D5 on enclosed inquiry slip ▲

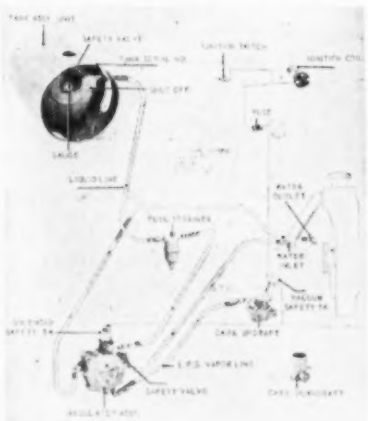
GAS BURNERS
feature good flame stability



Operating on all commercial gas fuels, Pyroline burners operate efficiently in air stream velocities of 5000 fpm and up to 40-in. mixture pressure. They have extremely stable flame and are rated 50,000 to 500,000 Btu/hr/ft. Flame travel is instantaneous from section to section without special attachments. Uniform distribution of heat over wide areas is possible using the cross, 90-degree elbow, bottom inlet, side inlet and straight sections. Universal pilot mounting for single point ignition and flame protection can be bolted to any flange on either side of burner. Made by **Bryant Industrial Products Corp.,** Dept. D, 17700 Miles Ave., Cleveland 28, O.

▲ For more details circle NED-666 D5 on enclosed inquiry slip ▲

LP-GAS CONVERSION KITS
UL-approved units for fork trucks

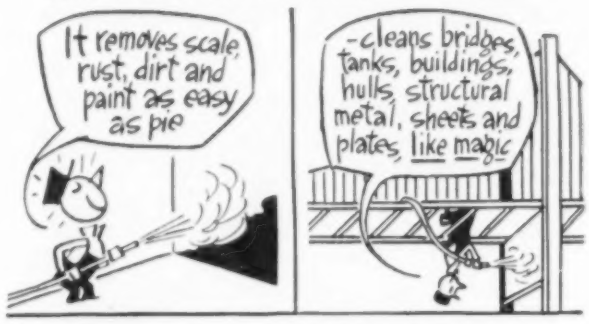


Gas-powered Clark fork trucks can be adapted to operation on liquefied petroleum gas by installation of a UL-approved conversion kit. Components are the same as used in LP-gas production models built at the factory. Conversions can be made on standard Clipper, Carloader, Yardlift 40 and Utilitruc model fork trucks. Kits for other models will be available soon. Made by **Clark Equipment Co.,** 1952 Arze St., Battle Creek, Mich.

▲ For more details circle NED-667 D5 on enclosed inquiry slip ▲

PANGBORN BLASTS by don herold

COST-CUTTING STORY OF THE PANGBORN BLAST CLEANING MACHINE



Pangborn Blast Cleaning Machine—available in six types, stationary or portable—delivers efficient, low-cost maintenance in any plant. $188 and up. For details, write: PANGBORN CORPORATION, 2400 Pangborn Blvd., Hagerstown, Md.

Pangborn BLAST CLEANS CHEAPER with the right equipment for every job

▲ For more details circle NED-668 D5 on enclosed inquiry slip ▲

Better rubber products are made with Du Pont NEOPRENE

Neoprene protects collapsible shipping "drums" against chemicals, abrasion, weathering

NEWEST METHOD for shipping powdery or granular materials is flexible "drums" which pack flat for economical return shipment. They consist of multiple layers of rubber and fabric, reinforced with cables running up to a lifting ring on top. And for versatility and extra-long service, the drums have an inner lining and an outer covering of neoprene—Du Pont's chemical rubber.

These sturdy drums offer reduced handling costs to shippers, inexpensive bulk shipment and storage to customers. And neoprene adds still other advantages. The durable neoprene lining resists chemicals and oils . . . permits safe shipment of a wide range of chemically active materials. There's no danger of cracks in the lining despite severe flexing when the drum is collapsed. Equally important is the resistance to weathering, sunlight and abrasion assured by the rugged neoprene outer coating.

This new application is one more example of how neoprene proves its worth on industry's tough jobs. In industrial rubber goods of all types, you'll find that neoprene brings long service life that cuts maintenance costs. Give your supplier a call. He'll be glad to tell you about the neoprene products he sells.

FREE! THE NEOPRENE NOTEBOOK

Every issue describes new products, unusual applications of neoprene . . . shows how neoprene cuts maintenance costs. Clip and mail this coupon to get on the mailing list. E. I. du Pont de Nemours & Co. (Inc.), Rubber Chemicals Division NE-4, Wilmington 98, Delaware.

NEOPRENE
The rubber made by Du Pont since 1932

DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

▲ For more details circle NED-669 D5 on enclosed inquiry slip ▲

STAMPINGS
for the
FINISHED PRODUCT

SEE SESSIONS for Metal Specialties, Box & Case Hardware, Stamped Assemblies in a wide range of finishes.

J. H. SESSIONS & SON

289 RIVERSIDE AVENUE • BRISTOL, CONN.

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THESE ARE NEW

Adjustable AIR BORE GAGES

These Adjustable Air Bore Gages bring to job or production runs the basic advantages of the Dimensionair's stable accuracy, precisely calibrated scale, fast set-up and long range. They can be used with either the 2500 to 1 magnification or 5000 to 1 magnification Dimensionairs, including these now in use in Industry. FOUR GAGES COVER A ½" — 8" RANGE. Particularly in the larger sizes and where holes with large diameters are difficult to reach, those lightweight gages check holes conveniently with air. Gages can be set with gage blocks and measurements transferred to a hole with no significant error. Repetitive accuracy is outstanding. Learn more about this latest development in air gaging. Write FEDERAL PRODUCTS CORP., 5174 EDDY ST., PROVIDENCE 1, R. I.

Ask FEDERAL FOR ANYTHING IN MODERN GAGES...

Dial Indicating, Air, Electric, or Electronic — for Inspecting, Measuring, Sorting or Automatically Controlling Dimensions on Machines

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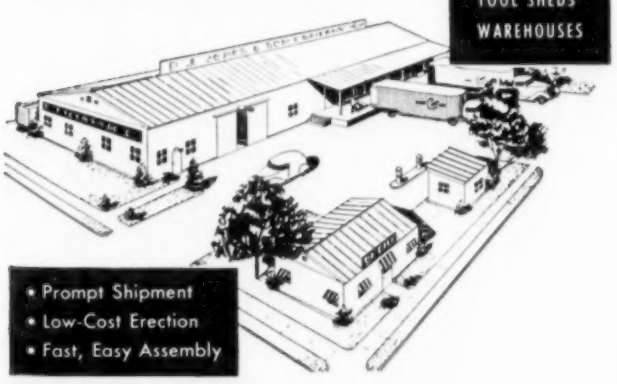
ARMCO STEEL BUILDINGS

FOR OFFICES TOOL SHEDS WAREHOUSES



• Prompt Shipment
• Low-Cost Erection
• Fast, Easy Assembly

Armco Steel Buildings meet practically all business and industrial needs. Dependable, attractive, fire- and weather-resistant. Sizes range from 4' to 40' in clear-span widths (use multiple-span buildings for greater widths), almost any length. Easily enlarged or quickly dismantled. Used by industry for over 20 years. Write for data.

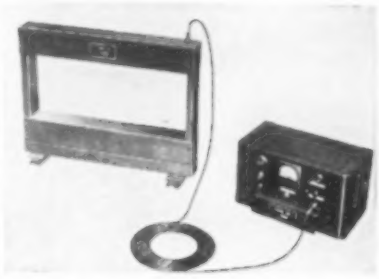
ARMCO DRAINAGE & METAL PRODUCTS, INC.
3555 Curtis Street, Middletown, Ohio

ARMCO

WRITE FOR THE COMPLETE MONEY-SAVING STORY

▲ For more details circle NED-672 D5 on enclosed inquiry slip ▲

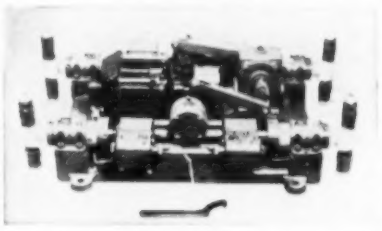
METAL DETECTOR
usable on conveyor belt lines



All types of magnetic metals are readily detected by this Metal Detector. It immediately signals the presence of metals to protect machinery and product quality against tramp metal damage. Unit plugs into into any electrical outlet. Search coil is placed around conveyor belt, and unit operates automatically. Sensitivity can be controlled to permit passing of nonmetallic belt lacings. Units are also available for detection of nonmagnetic particles. Made by **Dings Electronics, Inc.**, 4758 W. Electric Ave., Milwaukee 46, Wis.

▲ For more details circle NED-673 D5 on enclosed inquiry slip ▲

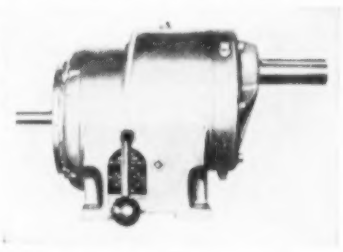
PLASTIC PROPORTIONING PUMPS
handle highly corrosive fluids



Highly corrosive fluids can be handled by U type pumps having pump body and check valve assemblies made of either unplasticized polyvinyl chloride or Kel-F. Used in conjunction with ceramic pump plungers and ceramic check valve balls, these plastics resist ferric chloride, sodium hypochlorite, cupric chloride as well as hydrochloric, hydrofluoric and nitric acids. Pumps are available in one, two, three or four-feed units with capacities up to 19 gph per feed. Units with ¼ to ½-in. diameter plungers will develop pressures up to 300 psi; with ⅝ to 1-in. plungers, up to 150 psi. Polyvinyl chloride units can be used at up to 150° F; the Kel-F pumps, at temperatures to 250° F. Made by **Hills-McCanna Co.**, Pump Div., 2455 W. Nelson St., Chicago, Ill.

▲ For more details circle NED-674 D5 on enclosed inquiry slip ▲

GEARSHIFT DRIVE
5-hp unit has four output speeds



Primary gear ratios of 4.15 to 1, 3.15 to 1, 1.85 to 1 and 1 to 1 are available in the type R3DC gearshift drive, along with seven optional secondary gear ratios ranging to a maximum of 2.25 to 1. The sliding gear transmission has a capacity of 5 hp at 1800 rpm input and provides four constant horsepower output speeds with above ratios when used with a single speed motor, or eight speeds with a two-speed motor. Depending on speed of motor used with it, the output speed range is from 93 to 1730 rpm at full load. Made by **Lima Electric Motor Co.**, 78 Findlay Rd., Lima, O.

▲ For more details circle NED-675 D5 on enclosed inquiry slip ▲

PNEUMATIC RECEIVER
for instrument and control systems

Drift-free stability and unlimited record grouping are claimed for this pneumatic receiver for instrument and control systems in power and process plants. Transmitted pneumatic signals of a measured variable are received by this unit which drives a recording pen. Plug-in, pin-positioned construction and an indexed drive arm make possible arbitrary mounting of one to four identical units in any receiver recorder. Signals can be graphically recorded in any combination from any make pneumatic transmitter with 3-15 or 3-27 psi ranges. Factory-calibrated unit can be replaced with an identical unit in a matter of minutes. Made by **Bailey Meter Co.**, 1022 Ivanhoe Rd., Cleveland 10, O.

▲ For more details circle NED-676 D5 on enclosed inquiry slip ▲

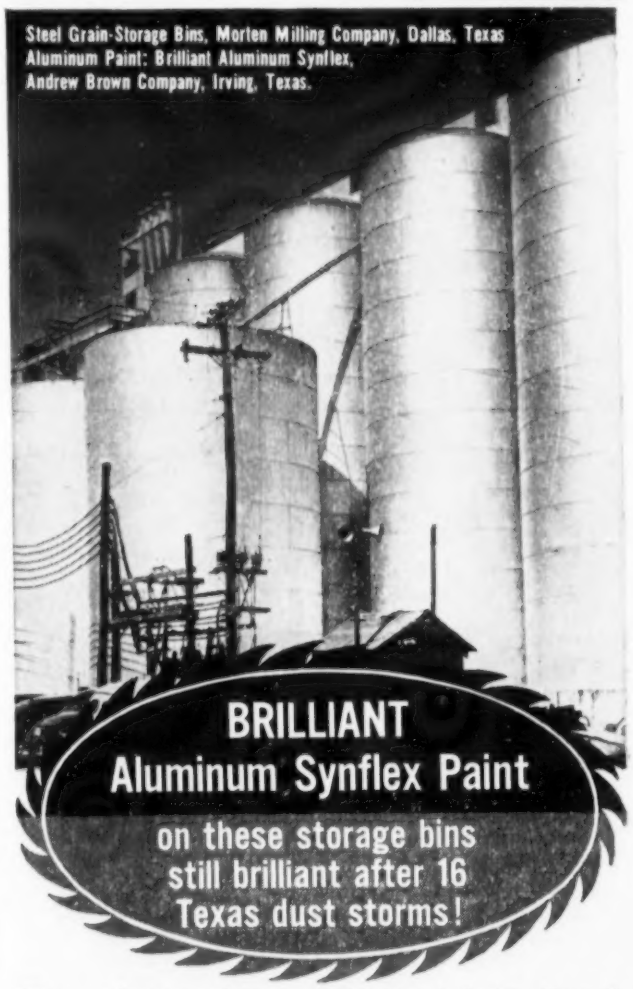
1 man handles Sheet Steel Faster, Easier with a C-F LIFTER

C-F Lifters, under one man operation, pick up, carry and unload more sheet steel tonnage per hour than any other method – and at lower cost per ton. Wide carrying angles hold sheets securely – won't damage high grade sheets; tong action insures safe carrying; fast opening and closing adjustments of Lifter jaws permit shifting from one size pack to another in seconds. C-F Lifters are made in standard or semi-special models to handle from 2 to 60 tons.

Write for Bulletin SL-28 for specific examples of C-F Lifter operation and economy.

CULLEN-FRIESTEDT CO.
1304 South Kilbourn Avenue • Chicago 23, Illinois

▲ For more details circle NED-677 D5 on enclosed inquiry slip ▲



These grain storage bins were painted with Andrew Brown's Brilliant Aluminum Synflex in August of 1950. Since then, they have been subjected to the intense heat of four Texas summers, continual exposure to eroding dust storms and violent extremes of temperature and humidity. These conditions would be hard on any finish, but the owners report that this tough aluminum coating is still brilliant and good for many more years of protection.

ALUMINUM PAINT excels under such conditions. You'll find it the perfect paint for all your roofs, buildings and machinery.

ALCOA does not make paint, but ALCOA Aluminum Pigments are used in more aluminum paints than any other brand. Special formulas have been developed by your paint manufacturer to solve individual problems. Paints made to these formulas actually cost you less, last longer, give utmost protection against heat, cold, sun, rain, smoke and fumes.

FREE Send for these ALCOA booklets, full of helpful painting tips. Write for your copies of *Painting With Aluminum* and *Aluminum Asphalt Roof Coatings Make Time Stand Still* today. ALUMINUM COMPANY OF AMERICA, Paint Service Bureau, 1788-D Alcoa Building, Mellon Square, Pittsburgh 19, Pennsylvania.

ALCOA ALUMINUM

ALUMINUM COMPANY OF AMERICA

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Got a production or design problem?

• GASKETS • PACKINGS • WASHERS
• SEALS • SHIMS • BUSHINGS • "O" RINGS

85 YEARS OF AUBURN "KNOW HOW" HAS THE ANSWERS!

Yes . . . over 85 years experience in engineering, designing, fabricating and production qualifies Auburn to help you find the ideal answer to your problem. Where gaskets, washers, and other sealing devices are concerned, Auburn engineers are tops in the field. Their know-how is yours—for the asking. We are tooled to fabricate in virtually any material:

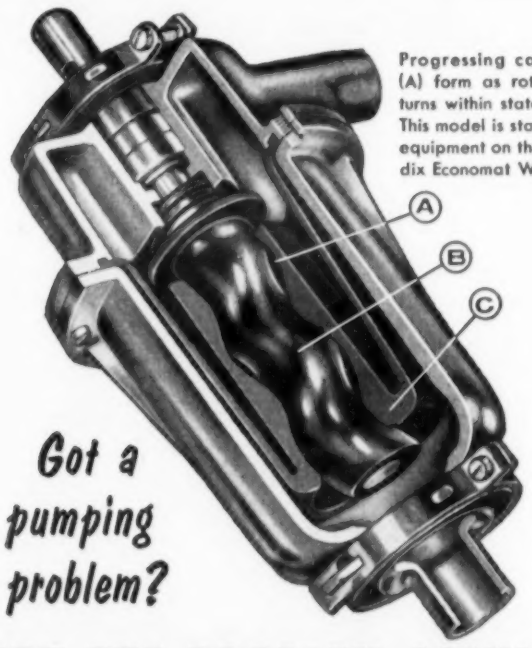
Leather, Asbestos, Teflon, Silicone Rubber, Neoprene, Rubber, Cork, Fibre Compositions, Phenolics, Felt, Cloth, Paper, Cardboard, Plastics, Brass, Steel, Copper, Aluminum, Kel-F, Other Special Materials.

Send us your specifications or blueprints. You'll receive quotations, recommendations without obligation.

AUBURN MANUFACTURING COMPANY
306 Stack St., Middletown, Conn.

Representatives: Atlanta, Ga.; Detroit, Mich.; St. Louis, Mo.; Los Angeles, Cal. Minneapolis, Minn.; Washington, D. C.; Cincinnati, O.; Rochester, N. Y.

▲ For more details circle NED-679 D5 on enclosed inquiry slip ▲



Progressing cavities (A) form as rotor (B) turns within stator (C). This model is standard equipment on the Bendix Economat Washer.

Got a pumping problem?

TRY THE PROBLEM-SOLVING MOYNO® PUMP!

Yes, this amazing pump is the best friend a man with a pumping problem ever had! It's like no other pump: as the illustration above shows, the Moyno pump actually works on the principle of a high-speed, precision screw-conveyor. Progressing cavities, formed by a machined rotor turning inside a synthetic rubber stator, give you positive displacement.

These cavities move smoothly: they don't squeeze the material . . . they can't stick or gum up. In addition to liquids and pastes, Moynos successfully pump such varied and unlikely materials as potato salad . . . clay . . . abrasive-laden slurries . . . chow mein!

More brief facts about the Moyno

Moynos are available to pull up to 29" of vacuum while discharging under pressure. Big Moynos pump up to 250 gpm, pressures to 600 psi. Pump equally well in either direction.

Won't churn . . . won't foam . . . won't aerate or vapor-lock. Only one moving part. No valves or pistons to cause trouble.

These Moyno features may help solve *your* pumping problem. If the material you handle will go through pipe, find out more about the world's most versatile pump!

Industrial-type Moyno . . . suitable for application on heavy hydraulic machinery . . . or in materials- or food-handling processes.

ROBBINS & MYERS, INC.
SPRINGFIELD 99, OHIO • BRANTFORD, ONTARIO

Mail Coupon for Free Booklet

Robbins & Myers, Inc. ND-45
Pump Division, Springfield 99, Ohio
Please send Bulletin 30C, showing more details on construction and operation of Moyno Pumps.

Name _____ *Title* _____
Company _____
Address _____
City _____ *State* _____

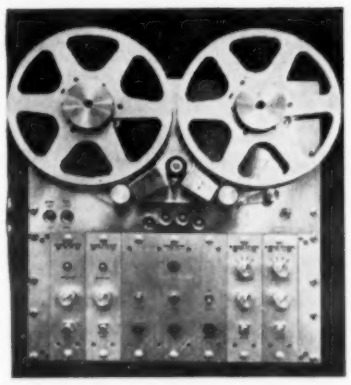
▲ For more details circle NED-680 D5 on enclosed inquiry slip ▲

MESSAGE VIEWER mounts on washroom hand dryer

Any safety or promotional message, ad reprint display card, photo or typewritten matter can be flashed to users of National washroom hand dryers on which this Mirro-Vue attachment has been mounted. Special construction of mirror-like screen enables it to become transparent so that the illuminated message placed inside shows through 10 seconds after dryer button is actuated. Message remains in view during drying cycle. It can be in color or black and white and can be changed as often as desired. Viewer is a separate unit and can be used with old or new dryers. It is permanently mounted to wall and wired to dryer. Made by **National Dryer Sales Corp.**, Dept. A, 616 W. Adams St., Chicago 6, Ill.

▲ For more details circle NED-681 D5 on enclosed inquiry slip ▲

MAGNETIC TAPE RECORDER handles data from 100-100,000 cps



Such instrumentation information as vibration, shock, sound, pressure and telemetering data, from 100 to 100,000 cps, can be recorded on type 7 magnetic tape recording equipment. Building-block assembly of equipment enables user to design a system to meet his requirements. Basic units include tape transport, head assembly, record amplifier, playback amplifier, power supply, monitor panel, monitor selector panel, bias distribution panel and bias oscillator. The 13 accessories include such items as remote control panel, rack, portable case and precision frequency power supply. Unit has four-speed drive (7½, 15, 30, 60 ips), 1 to 14 tracks and ¼ to 1-in. tape widths. Made by **A-V Mfg. Corp.**, Field Engineering Div., Dept. N-3, 100 Indiana Ave. N.W., Washington 1, D. C.

▲ For more details circle NED-682 D5 on enclosed inquiry slip ▲

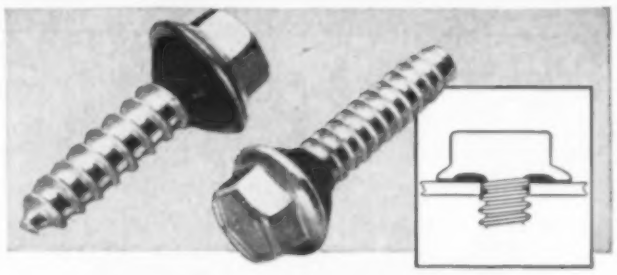
CUTTER & TOOL GRINDER with ½-hp reversible motor, has 8-in. swing, 15 in. between centers

Intended for reconditioning small tools, No. 1 cutter and tool grinder has 8-in. swing and 15 in. between centers. Unit has cartridge type grinding wheel spindle mounting with double row of preloaded antifriction bearings. Reversible ½-hp motor drive provides spindle speeds of 6260 or 3730 rpm through tooth-grip drive belt and sheave arrangement.

Duplicate controls allow operating machine at front, right hand end of table, or at rear, right or left-hand side of wheelhead. Curtain type dust guards protect controls as well as antifriction table slide. The 360-degree eccentric wheelhead swivel, adding 3 in. to conventional cross range of 4½ in., facilitates surface grinding and assures ample capacity for grinding large diameter cutters requiring full 8-in. swing of machine.

Utilizing precision gage blocks, swivel table Tange Bar taper setting device enables quick positioning of swivel table and assures accuracy when grinding angular cutters and tapered reamers. Recessed built-in electrical control, built-in start and stop pushbuttons and transformer for reducing high voltages to 110 v at pushbutton station are advantages. Variety of attachments extends range of machine. Made by **Cincinnati Milling Machine Co.**, Marburg & South Sts., Cincinnati 9, O.

▲ For more details circle NED-683 D5 on enclosed inquiry slip ▲



New *Tuff-Tite Fastener Prevents Leaks—Protects Surfaces—Absorbs Shocks—Stops Squeaks**

Tuff-Tite is a new multi-purpose fastener with a one-piece metal head and assembled neoprene washer that gives you quick, secure, economical, leakproof fastening of metals and plastics.

Leaks are impossible between the head of the screw and the metal washer because they are made as one piece. When this fastener is tightened, the pre-assembled neoprene washer is trapped and controlled by an undercut in the washer head. The neoprene is forced into the hole and around the threads to form a watertight and airtight seal.

Tuff-Tite fasteners are available as self-tapping screws, thread cutting screws, drive screws, machine screws, stove bolts, wood screws, nails and special products. They are made in a variety of metals and head styles. Write for Bulletin TL-97.

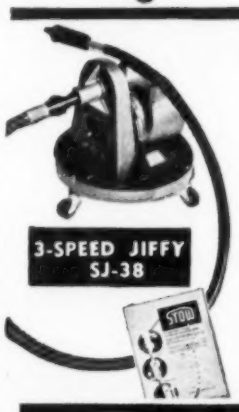
**Trademark*

Townsend Company
NEW BRIGHTON, PENNSYLVANIA

▲ For more details circle NED-684 D5 on enclosed inquiry slip ▲

step up production with

STOW flexible shaft MACHINES



These dependable STOW FLEXIBLE SHAFT MACHINES save production time . . . speed up output . . . help lower production costs. Variable Speed Models shown are easily portable . . . cut down operator fatigue and increase on the job efficiency!

Constant Speed Models available. Also complete line of accessories designed to increase the utility of STOW Flexible Shaft Machines!

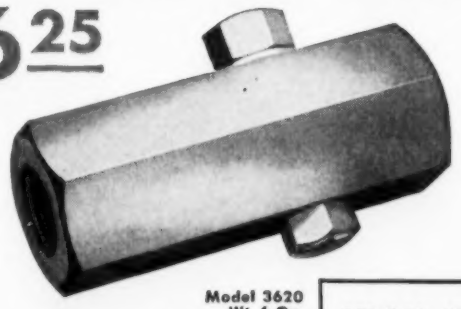
WRITE TODAY
for your free copy of CATALOG 51

STOW MANUFACTURING CO.
26 Shear St. Binghamton, N. Y.

▲ For more details circle NED-685 D5 on enclosed inquiry slip ▲

RIVETT 3/8" flow control air valve

$6.25



Model 3620
Wt. 6 Oz.
3" Length x 1⅛" Hex.

150 P.S.I. AIR
300 P.S.I.
OIL OR WATER

Meters flow in one direction; allows free flow in opposite direction. Anodized aluminum body; nylon poppet; corrosion-resistant adjusting screw with slotted hex head. Tightening hex nut on opposite end of adjusting screw locks setting.

Call your local Rivett Dealer or write direct.

RIVETT LATHE & GRINDER, Inc., Dept. NED 4 Brighton 35, Boston, Mass.

RIVETT FURNISHES A COMPLETE POWER PACKAGE

▲ For more details circle NED-686 D5 on enclosed inquiry slip ▲

REDUCE galling, seizing and wear with MOLY-Spray-KOTE® LUBRICANT

CONVENIENT APPLICATION . . . ESPECIALLY FOR HARD-TO-GET-AT LOCATIONS

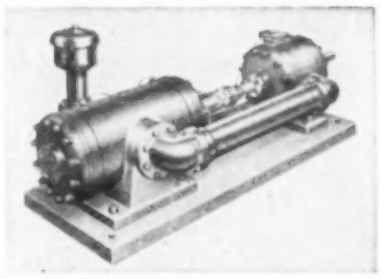
MOLY-Spray KOTE is one of industry's most effective dry lubricating films. It is a carefully compounded dispersion of micro-fine molybdenum disulfide powder in a propellant and packaged in a self-pressurized aerosol-type sprayer. Here is positive protection from seizing, welding and galling of metal parts . . . especially if applied during assembly.

Send for a trial order today. Write for your free copy of our new Bulletin 102 on MOLY-Spray-KOTE.

THE ALPHA CORPORATION
65 HARVARD AVENUE, STAMFORD, CONN.

For more details circle NED-687 D5 on enclosed inquiry slip

COMPRESSOR-VACUUM PUMPS
8 sizes deliver 250 to 1800 cfm



Two-stage rotary air compressor/vacuum pumps for shop air systems, drill rigs, pneumatic conveyors and gas compression are offered in eight sizes to handle from 250 to 1800 cfm at pressures ranging from 60 to 125 psi. Pump is water-cooled and consists of separate low pressure unit coupled to high pressure unit, both mounted on common bed plate. It is designed for direct connection to motors, although it can be driven through speed reduction or increasing gears by motors, engines or turbines. Made by **Allis-Chalmers Mfg. Co.**, 918 S. 70th St., Milwaukee 1, Wis.

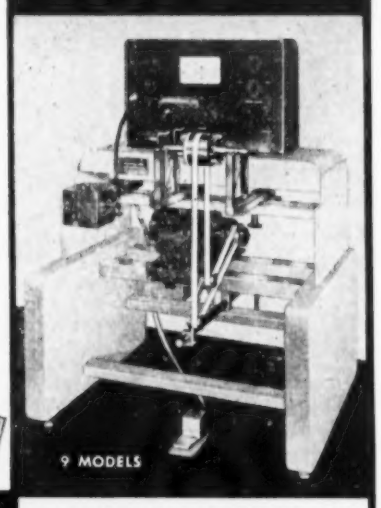
For more details circle NED-690 D5 on enclosed inquiry slip

A *PROVEN DYNAMIC and STATIC PRODUCTION

BEKO

BALANCER
A Quality Machine at Lowest Cost!

* Proven in Use ease of use by unskilled operators.
* Proven in Use for direct and accurate indications.
* Proven in Use for convenient and rapid operation.
* Proven in Use for dependable heavy duty service.

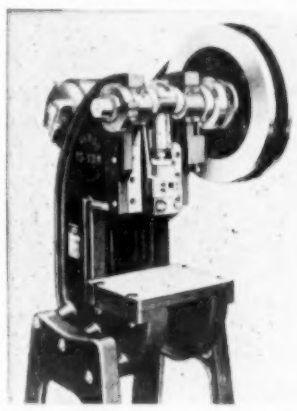


Ask us how a BEKO Balancer will cut costs for you . . . WRITE FOR CATALOG!

BALANCE ENGINEERING CO.
CHICAGO
SALES DIVISION: MACDELL CORP.
846 WEST LAKE STREET
CHICAGO 7, ILL.

For more details circle NED-688 D5 on enclosed inquiry slip

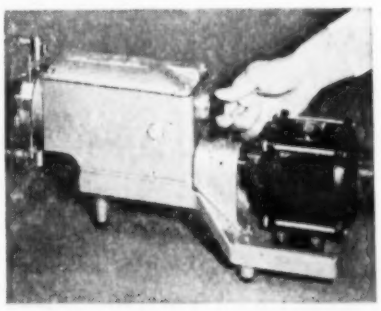
PUNCH PRESS
floor type 15-ton unit



Flywheel of this 15-ton punch press is carried on two roller bearings, is 20 in. diameter and weighs 200 lb, sufficient weight for full capacity punching at both high and low speeds. Built with a one-piece alloy steel crankshaft, extra long V-type ramways with sorbomat construction, and 1 9/16-in. ram hole for standard die sets, press has 4 x 5-in. ram area. Driving mechanism is contained in the clutch collar. A single-trip control requires only 1 to 2-lb operating pressure. Press is floor type and can be furnished with single or double hand control or foot control. Made by **Kenco Mfg. Co.**, Dept. NED, 5211 Telegraph Rd., Los Angeles 22, Calif.

For more details circle NED-691 D5 on enclosed inquiry slip

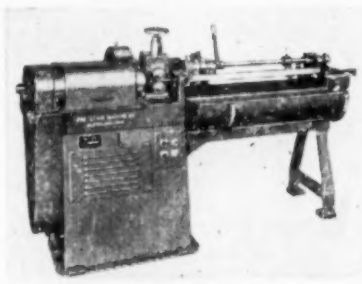
METERING PUMP
for micro flow rates



Precision pumping, metering, feeding and proportioning of fluids at micro flow rates is possible with the Microflo Pulsafeeder pump. The piston-diaphragm unit will operate against pressures up to 1000 psi and its maximum flow rate is 2400 milliliters per hour. Product is isolated from all pumping parts by a hydraulically balanced diaphragm. Pump uses a standard 1/20-hp electric motor without gear reduction. Pumping rate from 0 to 100 per cent capacity, established by length of the piston stroke, is set on a dial indicator calibrated in 1000 increments. Made by **Lapp Insulator Co.**, Dept. B, 11 Gilbert St., LeRoy, N. Y.

For more details circle NED-692 D5 on enclosed inquiry slip

WIRE STRAIGHTENER-CUTTER
two models for wire up to 1/4-in.



All commonly used types of wire can be straightened and cut on the model 2-C machine, made in two models for wire from 1/16 to 3/16-in. and 3/32 to 1/4-in. Features of both machines include rigid straightener arbor support brackets for minimum vibration, enclosed straightener arbor guard to keep oil off machine and V-belts, and flush-mounted electric control buttons. High speed, five-die straightener arbor is mounted on ball bearings. Solenoid-operated trip mechanism is available and is recommended for small diameter wire sizes. Made by **Lewis Machine Co.**, Dept. 8C 3441 E. 76th St., Cleveland 27, O.

For more details circle NED-693 D5 on enclosed inquiry slip

Group of RUEMELIN Fume Collectors Keeps Shop Clear of Welding Fumes

This well ventilated welding department is typical of hundreds of similar installations. Welding operators appreciate smoke and gas-free atmosphere. Thousands in service. Many repeat orders. Collecting fumes at the source with local exhaust hoods has proven most practical in operation. It is particularly helpful in winter months when doors and windows are closed. Write for Bulletin 37-D describing all types of Ruemelin Fume Collectors.

RUEMELIN MFG. CO.
3883 N. PALMER STREET MILWAUKEE 12, WIS., U. S. A.
MANUFACTURERS AND ENGINEERS — SAND BLAST AND DUST COLLECTING EQUIPMENT — WELDING FUME COLLECTORS

A 5911-1/9-A

For more details circle NED-689 D5 on enclosed inquiry slip

SAVE 50% on ROOF REPAIR

FREE BOOK SHOWS HOW 90% of Leaky Roofs Can be Saved

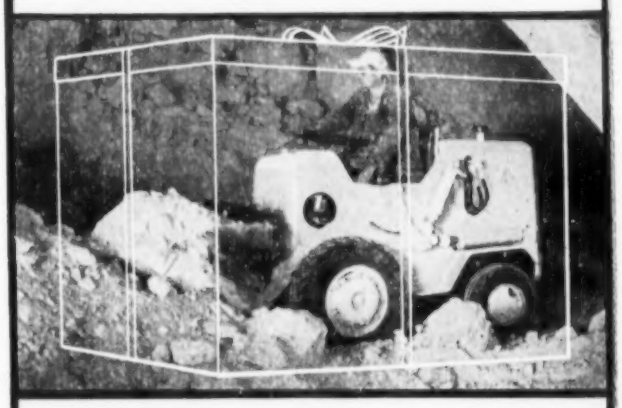
Cut Costs in HALF with Unskilled Labor

There are no secrets or special skills to good roof repair! Free step-by-step book shows exactly how to recondition roofs . . . to give 90% of leaky roofs extra years of weather-tight life . . . to do the job right with unskilled labor at HALF the cost. Your business letterhead request brings "Saving Old Roofs" free. Write today!

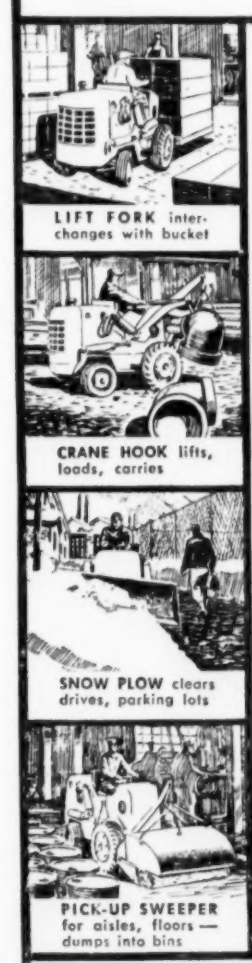
TROPICAL PAINT COMPANY
1124-1280 W. 70th • Cleveland 2, Ohio
HEAVY-DUTY MAINTENANCE PAINTS SINCE 1883

For more details circle NED-694 D5 on enclosed inquiry slip

NEW PAYLOADER® TRACTOR-SHOVEL



5 machines in a single package



Here is the 1955 Model HA "PAYLOADER" tractor-shovel that climaxes 15 years of HA successes, and is twice as good as its famous predecessor. Its 18 cu. ft. bucket has twice the digging power . . . it has twice the lifting capacity and carrying capacity . . . will scoop-up, carry, load and dump bulk materials faster than ever before . . . indoors and outdoors.

In addition, four valuable extra attachments are also available to adapt the model HA to many other profitable uses. Virtually, this new "PAYLOADER" is "five machines in a single package." Your "PAYLOADER" Distributor is ready to demonstrate what it can do. THE FRANK G. HOUGH CO., 746 Sunnyside Ave., Libertyville, Illinois.

PAYLOADER®
MANUFACTURED BY THE FRANK G. HOUGH CO. • LIBERTYVILLE, ILL.
SUBSIDIARY INTERNATIONAL HARVESTER COMPANY

For more details circle NED-695 D5 on enclosed inquiry slip

Engineers, Manufacturers and Installers of America's most complete line of quality GRAVITY WHEEL, ROLLER and POWER CONVEYORS.

Consult the yellow section of your phone book or write the SAGE factory.

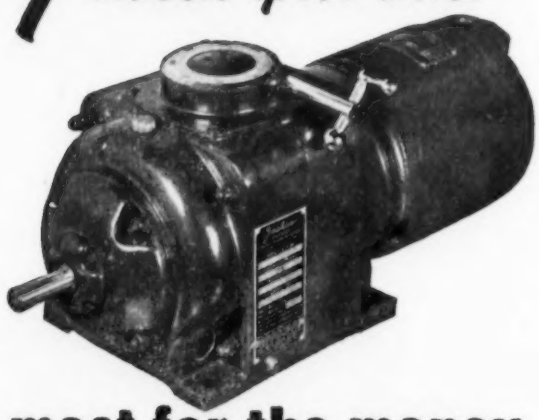
Distributors — a few territories available, write for the SAGE proposition.

SAGE EQUIPMENT CO., INC.
30 ESSEX ST. BUFFALO 13, N. Y.

▲ For more details circle NED-696 D5 on enclosed inquiry slip ▲

The Tough Jobs go to

Graham
variable speed drives



most for the money
because . . .

- ULTIMATE in SIMPLICITY and COMPACTNESS — only the Graham is a straight line extension of a standard induction motor — or available without motor.
- UNLIMITED SPEED RANGE — from any desired maximum speed to zero, including reverse if wanted without stopping motor.
- UNMATCHED ACCURACY — of speed setting and resetting and speed holding.
- NO PERISHABLE PARTS — such as belts or tubes, requiring periodic replacement.
- PROVED PERFORMANCE — Fifteen years satisfactory use as standard equipment.
- LOW COST — a better job for less money.

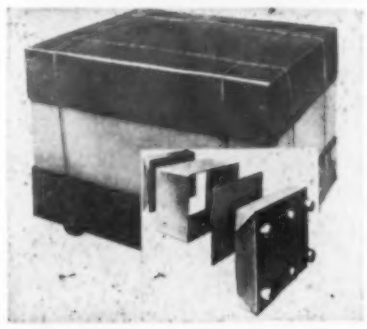
Prompt Delivery on Standard Models

GRAHAM TRANSMISSIONS, INC.
Dept. NED, Menomonee Falls, Wis.

GET Graham most reliable variable speed drive made
ENGINEERED and RATED for 'ROUND the CLOCK SERVICE

▲ For more details circle NED-697 D5 on enclosed inquiry slip ▲

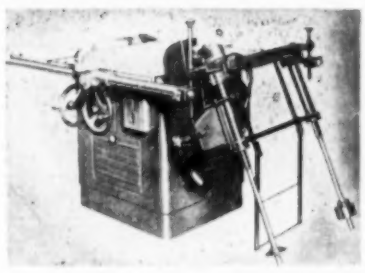
BULK CONTAINERS
can hold over 2000 lb of material



Lending itself to efficient packaging of bulk materials as well as to multiple units of manufactured items, Bin-Pallet corrugated bulk container consists basically of a body with two caps and a bottom pad. Closure is by means of wire straps. Photo shows package used for shipping up to 2500 lb of tractor parts. Metal nesting pallet cups are used as "feet" and will slide easily on floors. Assembly of package is simple and can easily be handled by women workers. Made by **Gaylord Container Corp.**, 201 Cotton Belt Bldg., St. Louis 2, Mo.

▲ For more details circle NED-698 D5 on enclosed inquiry slip ▲

POWER SAW & FEEDER
designed for industrial use



This combination power feed rip unit and 12-in. tilting arbor saw affords fast production in woodworking and industrial plants. By means of selective dial control, feeds from 20 to 90 fpm are available. If only the tilting arbor saw is required for specific cutting operations, the power feed unit can be swung out of the way. Made by **Rockwell Mfg. Co.**, Delta Power Tool Div., 441 N. Lexington Ave., Pittsburgh 8, Pa.

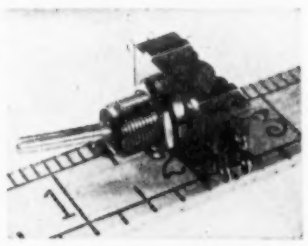
▲ For more details circle NED-699 D5 on enclosed inquiry slip ▲

INFRARED ELECTRIC HEATERS
with screw base or bi-post terminals

Infrared glass lamps can be replaced by Metaray all-metal far-infrared electric heaters made with either standard medium screw base or with bi-post terminals. Both are sheathed in Inconel and resist vibration and shock of industrial installations. Long wavelength far-infrared radiation produced is absorbed by all colors of surfaces with practically equal speed. Elements are self-cleaning in that splashed liquids and other materials are burned off. Heaters can be cycled or pulsed by means of input controller to adjust radiation to conveyor speed or work size. Insulated for full safety, units are offered in ratings from 375 to 1200 w for 120 and 240-v operation. Made by **Edwin L. Wiegand Co.**, 7509 Thomas Blvd., Pittsburgh 8, Pa.

▲ For more details circle NED-700 D5 on enclosed inquiry slip ▲

MINIATURE TOGGLE SWITCH
allows control of sealed assemblies



Corrosion and explosionproof construction is advantage of Hermetronic K - W toggle switch, capable of 300,000 cycles and able to withstand acceleration, impact and vibration to 200 G's. Switch has 1.15 x 0.625 x 0.415-in. case. Silicone rubber bonded to its stainless steel bushing gives switch panel-sealed feature, making it possible to control hermetically sealed assemblies by toggle action. Contact rating is 10 amp at 125 v ac, 10 amp at 30 v dc and 1.5 amp at 125 v dc. Insulation resistance is better than 1000 megohms at 70° F. Dielectric strength is checked at 1000 v rms. Switch can replace JAN S-23, ST 42 and ST 52 military types. Made by **General Hermetic Sealing Corp.**, Hermetronic Controls Div., Dept. 99, 99 E. Hawthorne Ave., Valley Stream, N. Y.

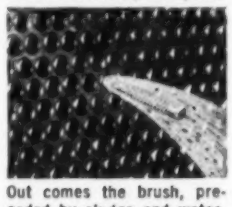
▲ For more details circle NED-701 D5 on enclosed inquiry slip ▲

Speed-up small tube cleaning with the NEW

ELLIOTT JIFFY GUN

The Jiffy Gun is a natural for cleaning sludge or soft deposit from small tubes as in condensers or heat exchangers. The job is easy and fast. Insert the nozzle into the tube end, push, and the released pressure shoots cleaning brushes or plugs through the tube. Air pressure can be used, but, water is recommended as the flushing action speeds the job. The long-lasting brushes of spirally wound nylon, cannot injure or stick in the tubes. Brushes and rubber composition plugs are available in required sizes. Contact your local Elliott representative or write Elliott Company, Springfield, Ohio.

Insert brush or plug in tube end . . . shove Jiffy Gun nozzle into tube, and push.



Out comes the brush, preceded by sludge and water.

Y4-9

ELLIOTT Company

STEAM TURBINES • MOTORS • GENERATORS • DEAERATING HEATERS • EJECTORS • CONDENSERS • CENTRIFUGAL COMPRESSORS • TURBOCHARGERS • TUBE CLEANERS • STRAINERS

▲ For more details circle NED-702 D5 on enclosed inquiry slip ▲

FINGER-TIP Controlled POWER
For 'Small-Work' Finishing Jobs!
Foredom FLEXIBLE SHAFT MACHINES
VERSATILE
And INEXPENSIVE TOO!

BROAD RANGE OF ACCESSORIES!

More are just a few of the many accessories listed in our catalog to make your employment of FOREDOMS pay DIVIDENDS!

7 HANDPIECE TYPES!

Pencil size or larger! Featherweight, high output, instantly interchangeable, reduced fatigue, superior workmanship and unmatched versatility!

WRITE FOR COMPLETE NEW CATALOG NO. N4D

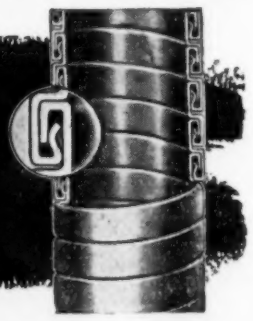
At Your Industrial Distributor. If He Can't Supply Write Us

Foredom ELECTRIC COMPANY
Dept. N4D
27 Park Place, New York 7, N. Y.

▲ For more details circle NED-703 D5 on enclosed inquiry slip ▲

FLEXON REX-TUBE

FLEXIBLE METAL HOSE of 1001 uses . . .



. . . for the practical handling of saturated steam, non-searching liquids or gases—substances such as tar, asphalt and petroleum products. It is also widely used for ducting, tubing and conduits. Rex-Tube absorbs vibration—expansion and contraction—misalignment. It combines the flexibility of hose with the durability of metal. Available in a wide range of sizes with fittings for your needs. Working pressures to 750 psi and temperatures to 1200° F. Write today for more information.

FLEXONICS CORPORATION
Formerly Chicago Metal Hose Corporation
1343 S. Third Avenue, Maywood, Illinois
Manufacturers of flexible metal hose and conduit, expansion joints, metallic bellows and assemblies of these components.
In Canada: Flexonics Corporation of Canada, Ltd., Brampton, Ontario

▲ For more details circle NED-704 D5 on enclosed inquiry slip ▲

WITH ®HYDROSCALE

Cut handling costs throughout your plant with a Hydroscale! Easily attached to any standard crane or hoist, Hydroscale lifts and weighs in one operation—eliminates extra handling, delays and guesswork.

Hydroscale has countless uses—in shipping-receiving, production, inventory control—*anywhere your hoist will reach!* Available in sizes from 500 to 100,000 lbs. capacity, there's a model to fit your specific requirements. Hydroscale will save you money in many different ways! It will pay you to get the facts.

WRITE TODAY FOR ILLUSTRATED BULLETIN!
Hydroway Scales, Inc., Department 44
20618 W. Eight Mile Road, Detroit 19, Michigan

®HYDROSCALE
LIFTS AND WEIGHS IN ONE OPERATION

Attractive Territories Available. Write for details.

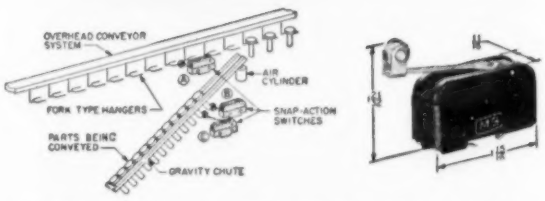
For more details circle NED-705 D5 on enclosed inquiry slip

MICRO SWITCH Precision Switches
A PRINCIPLE OF GOOD DESIGN

INCREASE PRODUCTION
...efficiency...safety
by installing MICRO SWITCH units

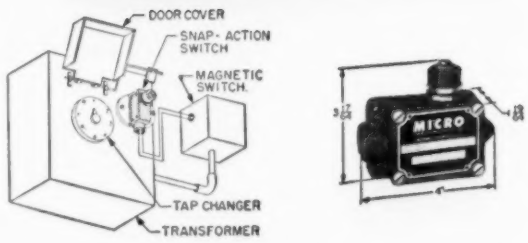
• Plant superintendents, engineers, electricians, maintenance men—in every type of industry—are finding MICRO SWITCH precision switches the most economical and efficient method of increasing productivity of their plant equipment. Switches are used to make machinery more automatic, safer and more efficient. Here's how some of them do it:

Operator is never out of parts



• Switch A operates air cylinder which picks part off hook and drops it into gravity chute. Switches B and C cut out Switch A when parts 11 and 12 are in place. As soon as part is removed, pick-off starts again.

High voltage cut off when door is opened



• Raising the cover of this high voltage transformer actuates the MICRO SWITCH unit. This causes the primary switch to disconnect the transformer from the line. It is impossible to change taps until power is cut off.

See your MICRO SWITCH distributor. Look in the Yellow Pages of your phone book. Ask for Catalog 101.

MICRO SWITCH
A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY
In Canada, Leaside, Toronto 17, Ontario • FREEPORT, ILLINOIS

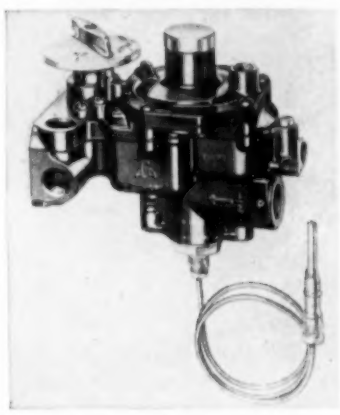
For more details circle NED-706 D5 on enclosed inquiry slip

INDUSTRIAL POWER SWEEPERS
four models sweep 24 to 58-in. paths

Four models comprise line of industrial power sweepers designed to meet needs of smallest to largest plant. All four models feature Filter-Vac dust control with easily removable dust bin, automatic dumping, large hopper capacity, 20-in. curb brooms for close sweeping, good maneuverability and electrically welded heavy plate steel construction. Sweeping paths range from 24 to 58 in., and maximum sweeping covering is 100,000 sq ft per hour. Made by **Wayne Mfg. Co.**, 1203 E. Lexington Ave., Pomona, Calif.

For more details circle NED-707 D5 on enclosed inquiry slip

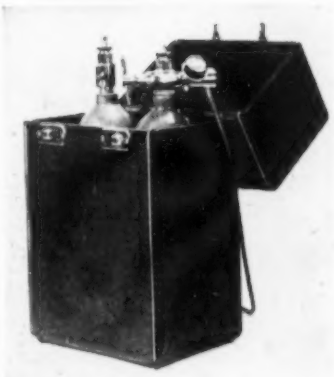
GAS HEATER CONTROL
performs five functions



Easily installed, self-contained model 55 Gasapack heater control comprises five controls: built-in pressure regulator for city gas, pilot filter, automatic pilot and main and pilot shutoffs. Modulating snap thermostat, modulating thermostat and electric thermostat are automatic accessories available. Control has a standard thermo-magnetic safety pilot with safety shut-off protection. Silent unit is impervious to all gases and is AGA-listed. Provision for bypass or low fire adjustment is included. Made by **A-P Controls Corp.**, 2409 N. 32nd St., Milwaukee 45, Wis.

For more details circle NED-708 D5 on enclosed inquiry slip

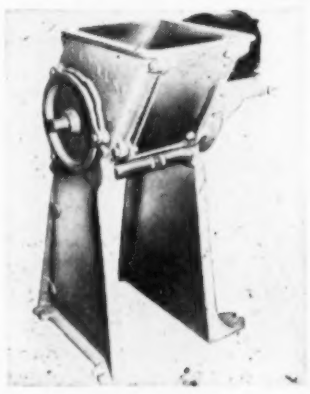
EMERGENCY OXYGEN UNIT
is portable for first-aid use



Life and health-saving oxygen for immediate use is provided by this portable Pocketaire oxygen unit. It can be used for resuscitation by anyone trained to give manual respiration. It contains two lightweight standard B medical oxygen cylinders, flow regulator with gage that gives a range of 3 to 7-liter flow of oxygen per minute and two disposable masks. It provides for emergency treatment to victims of smoke, drug and gas poisoning, burns, shock, heat exhaustion and cardiac asthma. Made by **Cycle-Flo Co.**, P. O. Box 228-N, Milford, Conn.

For more details circle NED-709 D5 on enclosed inquiry slip

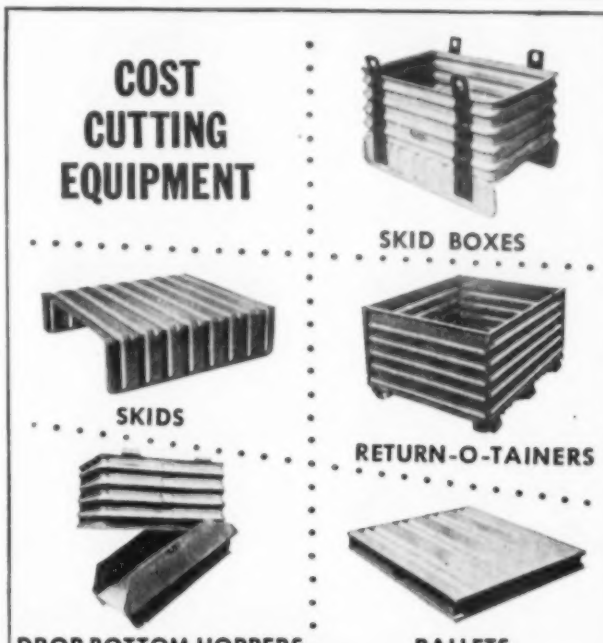
DRY ICE CRUSHER
for use with tumbling barrel



Supreme dry ice crusher will accommodate a 50-lb block of dry ice, rapidly reducing it to the desired size at a rate of 2 to 4 tons per hour. Crushed dry ice is used in tumbling barrels for polishing and removal of flash from plastic and rubber parts. Problem of separating ice from parts is nonexistant as the dry ice sunblimes into harmless carbon dioxide gas. Crusher is also available for producing powdered dry ice if preferred. It is powered by a 1½-hp motor through a gear reduction drive. Made by **Franklin P. Miller & Son, Inc.**, 36 Meadow St., East Orange 21, N. J.

For more details circle NED-710 D5 on enclosed inquiry slip

COST CUTTING EQUIPMENT



Send for catalog on Pressed Steel Equipment

FAB-WELD CORPORATION
SALMON & PICKWICK STS., PHILADELPHIA 34, PA.

For more details circle NED-711 D5 on enclosed inquiry slip

Put out deep-seated fires - FAST!

The most effective way to introduce special firefighting liquids into your water lines is with the Rockwood Eductor. It feeds *automatically* at any fixed percentage, pre-determined rate.

For quickest results against deep-seated fires in wood, paper, sawdust, cloth, rubber, etc., use the Eductor to feed in one part of Rockwood WET to 99 of water. This increases water's penetration and extinguishing action — reduces rekindling — saves time, water, manpower.

Against flammable liquid fires, the Eductor mixes 3 parts of Rockwood Double Strength FOAM with 97 of water, to form a fast smothering foam blanket. And for 5 types of discharge — FogFOAM, solid FOAM, high or low velocity WaterFOG or straight water stream — get Rockwood's versatile Type SG-60 Nozzle.

For complete details write for Rockwood's free, illustrated catalog. Distributors in all principal cities.

ROCKWOOD SPRINKLER COMPANY
Engineers Water . . . to Cut Fire Losses
Portable Fire Protection Division
344 HARLOW STREET, WORCESTER 5, MASSACHUSETTS

For more details circle NED-712 D5 on enclosed inquiry slip

SPEED HEAVY LOADS
from one floor level to another

ON THE LEVEL

You eliminate dangerous ramps and inclines . . . reduce breakage and accidents . . . save wasted labor motion . . . when a Globe Ramp Eliminator is on the job.

Installed quickly indoors or out. No major building changes. Standard components insure immediate shipment.

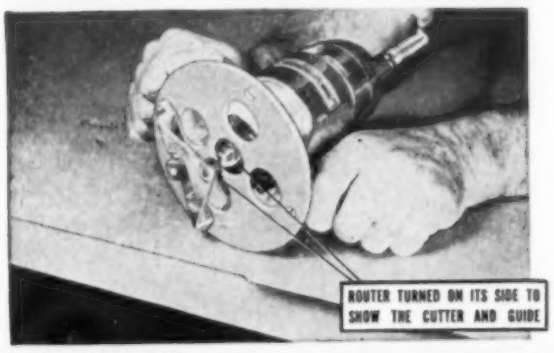
Sturdy hydraulic cylinder positions platform flush with lower or upper level. Maximum rise: 58". Powered by air-oil or Globe Oil Pump.

Write for complete data. Globe Hoist Company, East Mermaid Lane at Queen Street, Philadelphia 18, Penna.

GLOBE ® RAMP ELIMINATOR
PLANTS: DES MOINES—PHILADELPHIA—LONG BEACH, CAL.

For more details circle NED-713 D5 on enclosed inquiry slip

THE **FASTEST** WAY TO TRIM AND BEVEL HARD PLASTIC SURFACINGS



THE STANLEY H90 VENEER TRIMMER

Trims and bevels hard plastic surfacings with the same tool! No bits to change . . . cuts router down-time.

As a separate unit, the H91 Veneer Trim Guide Kit can be quickly installed on the Stanley H15, H45 and R8A Router. Write for free Bulletin to Stanley Electric Tools, 584 Myrtle Street, New Britain, Conn.

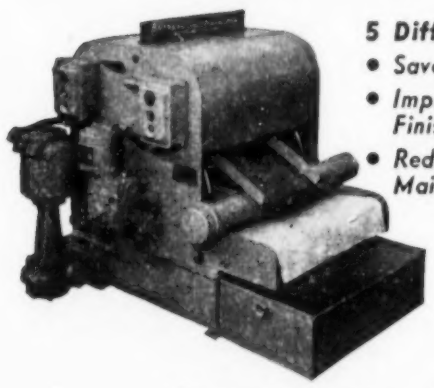
STANLEY Electric Tools
A Division of The Stanley Works
Tools • Electric Tools • Hardware • Steel • Steel Strapping

▲ For more details circle NED-714 D5 on enclosed inquiry slip ▲

BARNESDRIL

COOLANT FILTERS

Provide Selective Clarity In Coolant Cleaning!



5 Different Models
- *Save Coolant*
- *Improve Work Finishes*
- *Reduce Machine Maintenance*

Take out impurities and objectionable matter, either ferrous or non-ferrous, to the degree practical for your production purposes. BarnesdriL Engineers maintain modern laboratory facilities for complete analysis of your coolant problems. Ask for their recommendations.

Send for Bulletin 350CY

COOLANT BARNESDRIL CLEANING

FILTRATION DIVISION
BARNES DRILL CO.
866 CHESTNUT STREET • ROCKFORD, ILLINOIS

▲ For more details circle NED-715 D5 on enclosed inquiry slip ▲

A new *thermocouple Vacuum Gauge* announced by *CVC*

It is the *CVC* type TG-029, single-station unit. Designed around a printed circuit, the *CVC* instrument is compact, portable, and priced considerably lower than the previous single-station model. Its outstanding features include—
- No compensating adjustments—just plug it into a 115-volt, 60-cycle, AC outlet and turn on the power switch.
- Measures the total pressure of condensable vapors and permanent gases.
- Is not harmed by exposure to atmospheric pressure.
- One direct reading meter scale covers the range from 1 to 1000 microns Hg.

The gauge tube is also *new*—it's the type TG-77 which is rugged and less subject to organic vapor contamination. Its electrical characteristics do not vary appreciably from one tube to another.

For information on this and other *CVC* Vacuum Measuring Gauges, write *Consolidated Vacuum Corporation, Rochester 3, N. Y.* (a subsidiary of Consolidated Engineering Corporation, Pasadena, California).

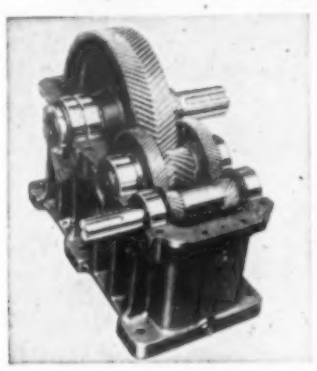
CVC

Consolidated Vacuum Corporation
Headquarters for High Vacuum —— ROCHESTER 3, N. Y.

sales offices: New York, N. Y. • Chicago, Ill. • Boston, Mass. • San Francisco, Calif. • Camden, N. J.

▲ For more details circle NED-716 D5 on enclosed inquiry slip ▲

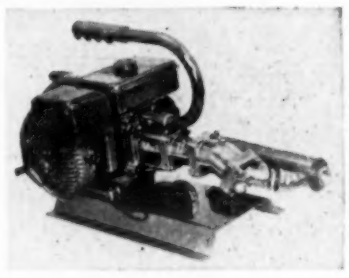
HEAVY-DUTY SPEED REDUCERS
capacities range from 1 to 1950 hp



Produced in 60 standard ratios ranging from 1.27 to 1 up to 355.8 to 1, line of herringbone gear speed reducers will meet most drive requirements. Capacities range from 1 to 1950 hp. All are available in types suitable for coupled or overhung load applications. Nine standard shaft extension assemblies and two standard styles of bed plates afford flexibility of drive arrangement. Features include precision-generated gears, balanced design, antifriction bearings throughout, alloy iron housings, simple lubrication, large inspection openings and accessible oil drains and oil level indicators. Made by **W. A. Jones Foundry & Machine Co.**, 4403 W. Roosevelt Rd., Chicago 24, Ill.

▲ For more details circle NED-717 D5 on enclosed inquiry slip ▲

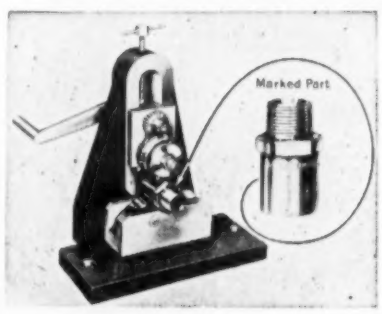
PORTABLE PUMPER
powered by gasoline engine



Capable of handling 7 gpm of fresh or salt water at pressures to 300 psi, this model GMS portable pumper is self-contained and includes 1.6-hp gasoline engine, pump and filter. When equipped with Ratiojet nozzle, unit can be used for application of detergents and other chemicals which are to be mixed with water in specified proportions and applied under high pressure. Model EMD has 3-hp electric motor direct-connected to dual pumps, and handles 14 gpm at 300 psi. Made by **Eastman Pacific Co.**, 2322 E. Eighth St., Los Angeles 21, Calif.

▲ For more details circle NED-718 D5 on enclosed inquiry slip ▲

ROUND-PART MARKER
handles diameters up to 5 in.



Periphery of any solid or tubular round metal part can be permanently marked with this model GRD-960-2 stamping fixture. It can also be adapted to mark flat surfaces. Fixture consists of cast steel base with flanges for bolting to bench, cradle or mandrel for solid or tubular parts, roller marking die and gear mounted handle. Die can be either type insert or solid type. Single characters or logotypes can be used with the insert dies, and type capacity depends upon size of characters to be used. Made by **M. E. Cunningham Co.**, 1055 Chateau St., Pittsburgh 33, Pa.

▲ For more details circle NED-719 D5 on enclosed inquiry slip ▲

END MEASURING RODS
available in sets or individually

End measuring rods and micrometer heads made from selected steel can be obtained individually or in sets. Rods are offered in 1, 2, 3, 4, 5, 6, 10, 12 and 15-in. lengths with tolerances under +0.00004 and −0.00002-in. on longest rod. Tolerances for 4-in. micrometer heads are ±0.000025-in. Rods are hardened, seasoned and lapped to these tolerances. Sets are offered in seven standard combinations of the lengths mentioned, or in combinations made up as requested. Set No. 1, illustrated, consists of two each of the 1, 2, 3, 4, 5, and 6-in. rods and four 12-in. rods with two 4-in. micrometer heads, all in a wood case. Made by **Swedish Gage Co. of America**, 10641 Haggerty, Dearborn 1, Mich.

▲ For more details circle NED-720 D5 on enclosed inquiry slip ▲

SPRACO NOZZLES

Write for NOZZLE CATALOG *to*
SPRAY ENGINEERING CO.
106 CENTRAL STREET • SOMERVILLE 45, MASS.

▲ For more details circle NED-721 D5 on enclosed inquiry slip ▲

UNDERFLOOR CONVEYOR SYSTEM TRUCKS

1200 TO 4000 LBS. CAPACITY

THOMAS UCS SERIES

Designed and built for use with Underfloor Conveyor Systems, THOMAS UCS Series Trucks have rugged steel frames and are available with "Job-Suited" superstructures to meet your individual requirements. The No. 589-UCS Truck is shown above equipped with floor-saving "Resonite" wheels; however, all trucks in this series may be ordered with rubber-tired, roller-bearing wheels. Push rack shown has convenient angled writing board with clip at top for holding papers. Hardened steel coupling pin is swivel-type to reduce wear and is designed to provide fast, positive coupling.

OVERHEAD CONVEYOR SYSTEM TRUCKS

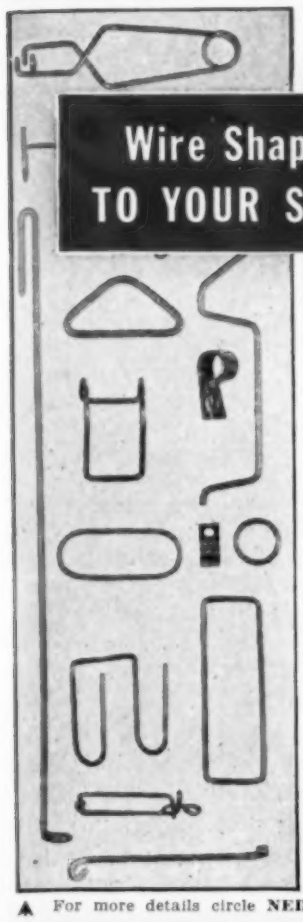
THOMAS MAST Series Trucks are available with "Job-Suited" Superstructures and attaching devices to meet your requirements. Available in 1200 to 4000 lb. capacities.

There is a THOMAS Representative in every Trade Area. Write for free literature describing the complete line of THOMAS "Job-Suited" Trailers, Trucks, Casters, Wheels and "Jak-Tung" Systems.

THOMAS

THOMAS TRUCK & CASTER CO.
527 MISSISSIPPI RIVER, KEOKUK, IOWA

▲ For more details circle NED-722 D5 on enclosed inquiry slip ▲



Wire Shapes and Forms TO YOUR SPECIFICATIONS

● Your wire forms are produced fast, accurately and at low cost with Sommer mass-production methods.

Speedy, automatic plating equipment handles either large or small assemblies. Popular new Zinc Iridite process adds a bright, durable, economical finish.

Sommer offers complete forming, stamping, cut-threading and butt-welding services. Let us work with you in designing and producing any wire shapes or forms needed for your defense contracts. Send sample, blueprint or drawing—see how Sommer can save you time and money.

SOMMER METALCRAFT CORPORATION
200 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

▲ For more details circle **NED-723 D5** on enclosed inquiry slip ▲

Another *NEW!* Low Cost ROWE ADJUST-A-DOCK

For safer, faster and more efficient dock handling

- Low initial, installation and operating cost
- Simple and easy installation
- Dependable trouble-free service

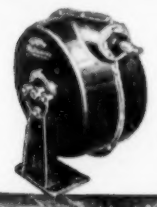
ADJUST-A-DOCK MODEL NO. 20 N.F. (Non-Floating)

- 20,000 capacity
- Dependable hydraulic power unit
- Rugged bridge design
- Automatic push button control

Get details today. Write for your free copy of the ROWE brochure.

ROWE METHODS, INC.
2534-I Detroit Ave. Cleveland 13, Ohio

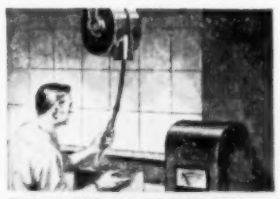
▲ For more details circle **NED-724 D5** on enclosed inquiry slip ▲



REEL SAVINGS FOR YOUR PLANT

WAYNE *Production-Booster* HOSE REELS

STOPS PROFIT ROBBING ACCIDENTS No suspension cables or coils of loose hose to trip over. Operator reels out only hose length needed, releases it like a window shade for automatic rewind.



ELIMINATES WASTE MOTION—Air supply and tool suspension are combined. Air tool is within easy reach at all times. Wayne Production-Booster Hose Reels increase output, reduce assembly costs, lessen worker fatigue

SAVES HOSE . . . PROLONGS LIFE—Hose is always reeled up . . . cannot be walked on, crushed by industrial trucks. Hose lasts longer . . . maintenance and replacement costs lower.

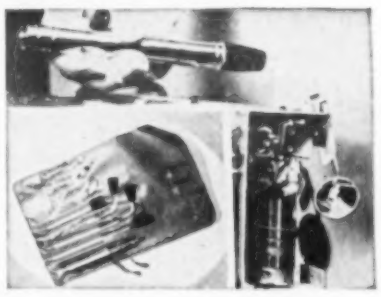
EASILY INSTALLED in any position. Hose lengths 15' to 50'.

THE WAYNE PUMP COMPANY
Industrial Division • FORT WAYNE, IND.
SALISBURY, MARYLAND • TORONTO, CANADA

Wayne Industrial Products

▲ For more details circle **NED-725 D5** on enclosed inquiry slip ▲

INSPECTION ILLUMINATOR reaches hard-to-see areas



Production and inspection operations are facilitated with this G-S Syte-Ayde illumination kit which provides light in out-of-the-way places. Powered by flashlight batteries, device has four light-transmitting rods. Two are straight, 3½ and 6 in. long, and two, of the same length, are bent 90 degrees. Three 1½-power mirrors of ½, ¾ and 1¼-in. diameters have clips which fit rod ends. All parts are contained in separate compartments of a plastic kit. Price is $5.50. Distributed by **General Scientific Equipment Co.,** 2701 W. Huntingdon St., Philadelphia 32, Pa.

▲ For more details circle **NED-726 D5** on enclosed inquiry slip ▲

DRY COPYING MACHINE is one-step, desk-top unit

Small enough to be used on an office desk, the Secretary completely-dry type copying machine makes copies of printed, written or drawn originals in about 4 seconds. Original can be transparent or opaque, printed on one or both sides and of any color. Unit measures 17 x 17 x 9 in., operates from any 110-v ac outlet and employs special copying paper. It copies in one step direct from original under ordinary office lighting. Made by **Minnesota Mining & Mfg. Co.,** Dept. NED, 900 Fauquier St., St. Paul 6, Minn.

▲ For more details circle **NED-727 D5** on enclosed inquiry slip ▲

FLUID FLOW TRANSMITTER usable with pneumatic receivers

Magnetically actuated, this Mag/Nu/Matic flow transmitter is designed for use with all types of pneumatic receivers and control instruments. Only moving parts are two stainless steel pistons which move on air cushion within cylinders of precision-bore glass, and the armature. Permanent magnet in this rotameter float extension attracts the armature in direct proportion to the height of the float in the tube. The difference in the position of the two pistons provides the restoring force to reposition the armature in response to flow changes. Transmitter provides fast full-range response to 3 to 15-psi output air pressures for all standard receivers. It operates at flow rates as low as 0.5 gpm of water or 2 cfm of air. Made by **Brooks Rotameter Co.,** Dept. OP, P. O. Box 432, Lansdale, Pa.

▲ For more details circle **NED-728 D5** on enclosed inquiry slip ▲

FUME HOODS all sizes in open and closed types

Made in all standard sizes in open and closed types, Metal-Aire modular fume hoods are fabricated in single and double compartments, double hung sash type and special arrangements to meet laboratory uses. Double wall superstructure is fully lined on interior with asbestos composition material. Internal sloping roof area is laminated safety glass with full area fluorescent lighting. Radially-acting, adjustable baffles control air balancing and handling. Glass sash operates on nylon rollers with counter weights at rear providing full front opening of hood without interference to air flow. Recessed remote control panels are furnished with hoods together with cupboard units for storage. Made by **Metalab Equipment Corp.,** 281 Duffy Ave., Hicksville, L. I., N. Y.

▲ For more details circle **NED-729 D5** on enclosed inquiry slip ▲

BOSTITCH T5 TACKER

One in the hand is worth two men with hammers and tacks!

- Just about twice as fast—that's how manufacturers and contractors compare the Bostitch T5 Tacker to hammer and tacks.
- There are other big advantages. The T5 Tacker permits accurate locating of staples, even in tight spots. Drives staples to within 1/16" of corners, penetrates deep into hard or gummy woods. One-hand operation leaves other hand free for holding or aligning material. Equally important, workers like it.

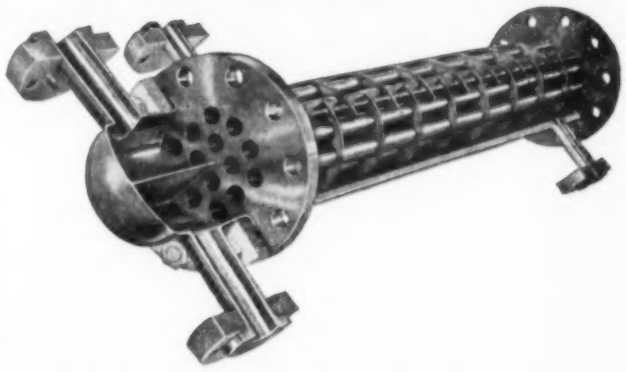
For more information about the Bostitch T5 Tacker and for application details, write BOSTITCH, 684 Mechanic St., Westerly, R. I.

Fasten it better and faster with

BOSTITCH
STAPLERS AND STAPLES

▲ For more details circle **NED-730 D5** on enclosed inquiry slip ▲

HEAT EXCHANGERS . . .



"Off-the-shelf" delivery in less than two weeks!

In 14 days or less, any of these six sizes of Pfaudler stainless steel heat exchangers can be speeding on its way to your plant!

Pfaudler's new stocking program, plus standard design, make "off-the-shelf" delivery possible. These units are ready for almost immediate shipment and are all fixed tube sheet design. Shell and baffles are made of carbon steel; tubes, tube sheets and bonnets, stainless steel.

DIMENSIONS AND PRICES (on all prices, add $40 if code stamp is required).

56 sq. ft. size—8" nominal shell diameter; 72" tube length; baffles on 4" centers; Type 316 tubes; single pass.
Price . . . $1199 f.o.b. Elyria, Ohio

101 sq. ft. size—10" nominal shell diameter; 96" tube length; baffles on 5" centers; Type 316 tubes; six pass.
Price . . . $1758 f.o.b. Elyria, Ohio

104 sq. ft. size—10" nominal shell diameter; 84" tube length; baffles on 5" centers; Type 316 or 304 tubes; single pass.
Price . . . Type 316 . . . $1648 f.o.b. Elyria, Ohio
Type 304 . . . $1437 f.o.b. Elyria, Ohio

149 sq. ft. size—10" nominal shell diameter; 120" tube length; baffles on 5" centers; Type 316 tubes; single pass.
Price . . . $1943 f.o.b. Elyria, Ohio

216 sq. ft. size—12" nominal shell diameter; 120" tube length; baffles on 6" centers; Type 316 tubes; single pass.
Price . . . $2622 f.o.b. Elyria, Ohio

316 sq. ft. size—14" nominal shell diameter; 144" tube length; baffles on 7" centers; Type 316 tubes; single pass.
Price . . . $3704 f.o.b. Elyria, Ohio

Also available for fast delivery, are a wide variety of other sizes: 4 weeks delivery on all standard single pass units up through 10" diameter. 6 weeks delivery on all standard multipass units up through 10" diameter. 6-8 weeks delivery on all standard units 12" in diameter and above.

For a fast, effective answer to that heat exchanger problem, call your nearest Pfaudler office or mail the coupon.

Pfaudler

THE PFAUDLER CO., Dept. NED-4, Rochester 3, N. Y.

☐ Send me your heat exchanger catalog.
☐ Send a salesman! I need heat exchanger help!

Name _____
Company _____
Street _____
City _____ Zone ____ State _____

▲ For more details circle **NED-731 D5** on enclosed inquiry slip ▲

Here's JEEP ENGINE RUGGEDNESS...

Willys POWER GIANT

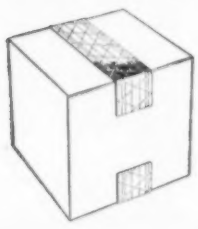
4 and 6 CYLINDER POWER UNITS

Here's a tough unit . . . for tough power applications. It's the rugged Willys POWER GIANT Power Unit with many low maintenance, high dependability advantages in its four 4 and 6 cylinder engines. Positive crankcase ventilation, positive valve rotators and superb engine balance . . . are among its rugged Jeep "proven-in-action" features. Here's new performance . . . and new long life. Ask for Power Unit brochure for complete data.

WILLYS MOTORS, INC., 1495 N. COVE BLVD., TOLEDO, OHIO

For more details circle NED-732 D5 on enclosed inquiry slip

The SNAKE TAPE Idea



. . use 2 strips only!

IT'S 2/3 FASTER because you seal only the two center seams!

IT'S 35% STRONGER because *reinforced* Snake Tape has strap-like strength. *Strength* you'll find in no other gummed tape because it's reinforced with *rayon* yarns . . . the same rayon yarns used in the best auto tires for superior shock absorbence.

PROVE TO YOURSELF, and at our expense, how much you can save in sealing time and in damage claims. Send for FREE sample of Angier Snake Tape now.

Free - 15 yd. sample

ANGIER CORPORATION • Framingham 30, Mass.

For more details circle NED-733 D5 on enclosed inquiry slip

Sweeping curves or sharp bends are easily made on Steelweld Presses with standard 4-way bending dies, simply by adjusting the ram stroke. Blanking, drawing, corrugating and punching are also readily performed. A complete line of Steelwelds in capacities to 750 tons is available for plate to 20'0" long.

STEELWELD BENDING PRESSES CATALOG No. 2010

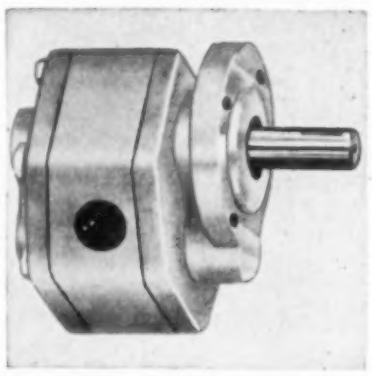
Send for free copy of catalog No. 2010.

THE CLEVELAND CRANE & ENGINEERING CO.
6633 East 281st St., Wickliffe, O.

STEELWELD PRESSES

For more details circle NED-734 D5 on enclosed inquiry slip

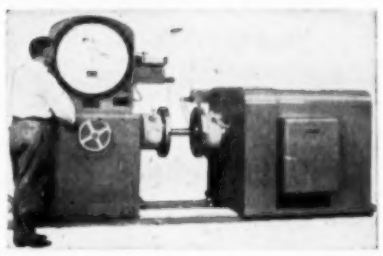
HYDRAULIC MOTORS rated 0.1 to 7.5 hp



Variety of mountings and port arrangements is available in line of lightweight reversible hydraulic motors. Rated for 1000 psi continuous duty, the gear type units develop from 0.1 to 7.5 hp. Typical uses are on farm and road building machinery and truck mounted equipment. Made by **Wisconsin Hydraulics, Inc.**, 3165 N. 30th St., Milwaukee 16, Wis.

For more details circle NED-735 D5 on enclosed inquiry slip

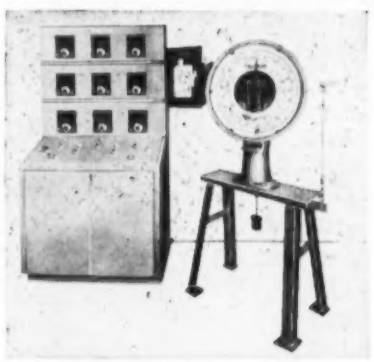
TORSION TESTER loads, indicates in both directions



This 200,000-in.-lb torsion testing machine loads and indicates torque in both directions of rotation. This eliminates need for taking down specimen and readjusting grips in order to get the full range of twist and pressure. To further simplify operation, the electronic Selectorange indicating system is coupled directly to the double weighing system, and a light on the control panel clearly indicates the load direction. Full dial scale is provided for each of three capacity ranges: 0 to 200,000 in.-lb, 0 to 100,000 in.-lb and 0 to 20,000 in.-lb. Made by **Tinius Olsen Testing Machine Co.**, 1026 Easton Rd., Willow Grove, Pa.

For more details circle NED-736 D5 on enclosed inquiry slip

ELECTRONIC BATCHING SYSTEM for continuous process industries



Adaptable for use in glass, chemical, ceramic, food, plastic, rubber and similar industries, this simplified Thurmatronic electronic batching system handles either accumulative or consecutive weighing. Controls can be set to weigh one batch or for completely automatic continuous batching. They also can be set to weigh any specific number of batches. Thus, all materials in any formula can be accurately weighed and transferred from storage bins to mixers and processing machinery automatically. Formulas for batches can be changed as desired. Made by **Thurman Machine Co.**, Scale Div., 152 N. Fifth Ave., Columbus, O.

For more details circle NED-737 D5 on enclosed inquiry slip

HAND TRUCKS with stair-protecting glides

Easy operating stair glides incorporated in G1152 and G1052 series hand trucks require minimum of effort in going up or down stairs. Equipped with rubberized fabric V-belts which will not damage finished stair surfaces, glide assemblies permit a smooth movement parallel to slope of stairs, rather than intermittent raising and lowering. Trucks can handle cases, crates, cartons, kegs, bags, drums and barrels. They are made of welded tubular steel with single or double handles and open or solid plate noses in 5, 7 and 9-in. lengths. The 14 x 47-in. frame is offered with 6 or 10-in. roller bearing, semipneumatic rubber tired wheels. Made by **Nutting Truck & Caster Co.**, 1201 W. Division St., Faribault, Minn.

For more details circle NED-738 D5 on enclosed inquiry slip

IN A HURRY?

WE CAN SHIP TODAY

We can ship from stock immediately, in a matter of minutes if necessary, from an inventory of nearly a thousand sizes, materials, and grades of precision balls—chrome alloy, stainless, Monel, bronze, aluminum, nylon, phenolic, glass. No need for delay—call Hartford.

Hartford STEEL BALL CO., INC.
HARTFORD, CONNECTICUT
Tel. Hartford ADams 3-1251

IHS55

For more details circle NED-739 D5 on enclosed inquiry slip

Special wire rope constructions and assemblies

FOR TIGHT SCHEDULES

BERGEN'S fast service helps meet all your needs for...

- Standard or special construction wire rope.
- Stranding of conductive, non-conductive or combination wires or cables.
- Conventional or unique assemblies with swaged, spliced or socketed fittings.

Exclusive techniques of working modern, wear-resistant metals speed BERGEN deliveries to you.

Write today for descriptive literature.

BERGEN WIRE ROPE COMPANY
604 GREGG ST.
LODI, N. J.

SERVING THE LEADERS OF INDUSTRY

For more details circle NED-740 D5 on enclosed inquiry slip

For Precision Maintenance Threading

The LITTLE LANDIS Pipe Threading Machine will cut pipe threads from ¼" to 2", and is equipped for cutting off, chamfering, and reaming. It is designed for rapid set-up; e.g., size adjustment is the only change required to thread all pipe diameters from 1" to 2". It may also be used to thread bolts from ¼" to 1½". The LANDIS Tangential Chasers used give long life between chaser grinds and produce accurate threads of excellent finish.

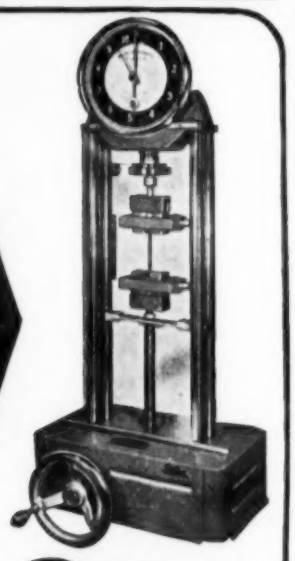
For additional information on the LITTLE LANDIS Pipe Threading and Cutting Machine, ask for Bulletin C-82.

LANDIS Machine COMPANY
WAYNESBORO · PENNSYLVANIA · U.S.A.

▲ For more details circle NED-741 D5 on enclosed inquiry slip ▲

Precision

built throughout for ease and speed in operation. Fully portable. Will make TENSILE, COMPRESSION, TRANSVERSE and SHEAR tests. Motorized or hand operated. Calibrated with Morehouse Proving Ring for accuracy. Maximum hand, self-aligning jaws, ball bearing throughout. Tests any type material, rounds, flats, special shapes.



Immediate delivery! Capacities from 0-250 lbs. up to 0-10,000 lbs. America's most popular low priced tester! Hundreds in use by leading plants.

Dillon TENSILE TESTER

WRITE FOR PROFUSELY ILLUSTRATED BULLETIN

W. C. DILLON & CO., Inc. 14620NE Keswick St. Van Nuys, Cal. (sub of Los Angeles)

▲ For more details circle NED-742 D5 on enclosed inquiry slip ▲

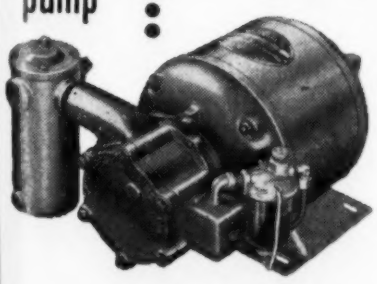
NEED VACUUM?

use the COMPACT pump

The Motoair Pump is built integral with its own motor to take the least amount of space and to avoid extra assembly necessary with separate drive.

Automatic lubrication complete with re-circulating system and visible oil reservoir is a feature of

the MOTOAIR®



Instantaneous suction and positive action is provided with the Motoair, being directly driven at the same rpm. as the motor.

ASK FOR CATALOG with performance data on various sizes of pumps. Oil-less models also available.

824

NEW JERSEY MACHINE Corporation

FACTORY SALES AND SERVICE BRANCHES CHICAGO CINCINNATI LOS ANGELES

1550 WILLOW AVENUE, HOBOKEN, N. J.

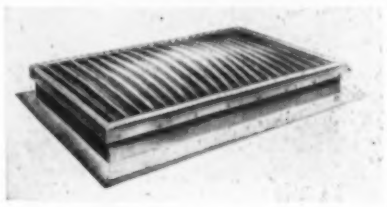
▲ For more details circle NED-743 D5 on enclosed inquiry slip ▲

SUBMERSIBLE PUMP
handles up to 3250 gph

Capable of operating in 15 ft of water, this submersible sump pump will handle up to 3250 gph. Motor housing acts as float control and is adjustable to any desired operating range. The ⅓-hp motor and switch are completely enclosed and sealed in a stainless steel housing. Lubricated-for-life unit operates fully automatically. Discharge outlet is threaded for 1¼-in. pipe. Made by **Carver Pump Co.**, 1464 Hershey Ave., Muscatine, Iowa.

▲ For more details circle NED-744 D5 on enclosed inquiry slip ▲

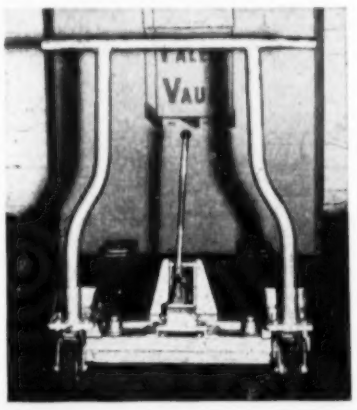
PACKAGED SKYLIGHTS-VENTILATORS
of corrugated translucent plastic



This line of featherweight skylights and ventilators consists of a corrugated transluscent Alsynite structural plastic panel permanently set in an extruded aluminum frame. Factory engineered for permanent maintenance-free service, it can be attached to the curb member in a few minutes with a screwdriver. Fiberglas reinforced plastic panel is slightly domed to permit inside condensation to flow to the frame's built-in gutter, where it is channeled to the outside by weep holes spaced on 4-in centers. Skylights and ventilators are corrosionproof, afford diffused light transmission, provide good insulation and are shatterproof. Skylights have inside frame dimensions from 23½ x 39½ in. to 71½ x 143 in., and the ventilators fit openings from 34 x 38 in. to 58 x 38 in. Made by **Marco Co.**, Dept. D, 45 Greenwood Ave., East Orange, N. J.

▲ For more details circle NED-745 D5 on enclosed inquiry slip ▲

PALLET JACK LIFT
2500-lb capacity hydraulic unit

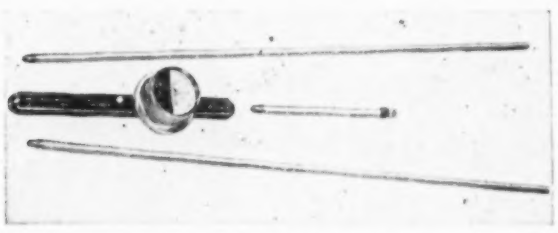


Only three strokes of the hydraulic jack are needed to raise load for free movement on this 2500-lb capacity Pallet Jack lift. Load is raised vertically. Lift has six load-carrying wheels which afford stability over rough floors. Tandem rear wheels prevent stalling when crossing indentations and cracks between floor and elevator. Wide rigid crossbar handle permits clear side vision when in confined areas. Forks are 54 in. long and 30 in. wide. Lowered height is 3¼ in., lifting height, 5½ in. Front wheels are roller and ball bearing caster type. Made by **General Van & Storage Co.**, Dept. NED, 4908 Delmar Blvd., St. Louis 8, Mo.

▲ For more details circle NED-746 D5 on enclosed inquiry slip ▲

PORTABLE ELECTRIC THERMOMETER
takes readings at push of a button

Instant and accurate temperature readings at the push of a button are possible with this No. 191 Temprobe portable electric thermometer. It consists of a



meter, two extension tubes and one air sensing probe. A Veco thermistor is employed as the temperature sensing element. Special probes are available for use in liquids, crude rubber and other mass materials; for checking temperatures of soil or bulk-storage commodities; and a surface type for flat or curved surfaces. Made by **Victory Engineering Corp.**, Dept. BM-54, Springfield Rd., Union, N. J.

▲ For more details circle NED-747 D5 on enclosed inquiry slip ▲

▲ For more details circle NED-748 D5 on enclosed inquiry slip ▲

"CLIP-TYPE" closed entry socket contact now standard in

BENDIX SCINFLEX ELECTRICAL CONNECTORS

Cannot be overstressed—eliminates intermittent circuit problems resulting from socket contact malfunction.

The heart of any electrical connector is the socket contact. This is why the Bendix-Scinflex* socket contacts have always been machined from bar stock. Stampings, with their required thin sections, can be easily overstressed.

Even with the machined sockets, industry has been plagued with overstressed spring leaves due principally to the misuse of test probes and lax tolerances on pin contacts. Bendix engineers have now provided the only socket contact on the market today which completely eliminates all these problems.

The "Clip-Type" socket will not accept any oversize probe or pin nor can one be forced into it. Also, no amount of wrenching or twisting of an acceptable pin or probe can possibly distort the spring clip. This new socket is now standard in all Scinflex connectors including those using solderless, high-temperature and thermocouple contacts.

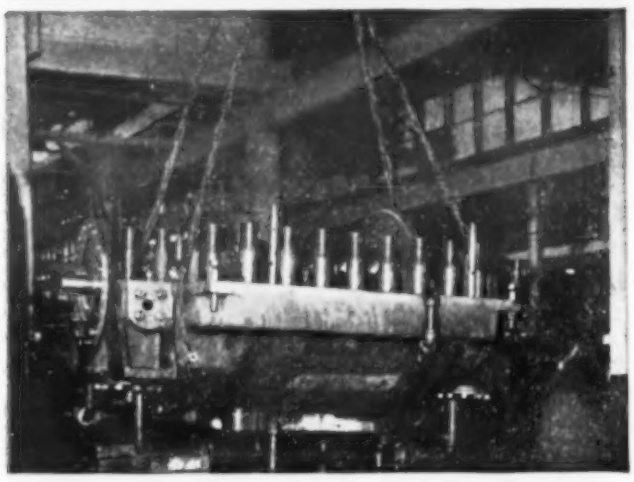
Our sales department will be glad to furnish complete information on request.

*TRADE-MARK

SCINTILLA DIVISION of Bendix AVIATION CORPORATION
SIDNEY, NEW YORK

Export Sales: Bendix International Division, 205 E. 42nd St., New York 17, N. Y.
FACTORY BRANCH OFFICES: 117 E. Providencia Ave., Burbank, Calif. • Stephenson Bldg., 6560 Cass Ave., Detroit 2, Michigan • 512 West Ave., Jenkintown, Pa. • Brouwer Bldg., 176 W. Wisconsin Avenue, Milwaukee, Wisconsin • 8401 Cedar Springs Rd., Dallas 19, Texas • American Bldg., 4 S. Main Street, Dayton 2, Ohio • 1701 "K" Street, N. W., Washington 6, D. C. • Boeing Field, Seattle 8, Washington.

▲ For more details circle NED-749 D5 on enclosed inquiry slip ▲



WICKWIRE SLINGS

with complete line of fittings

Wickwire Rope slings are offered in both braided and single-part construction; available with a complete line of fittings to meet all types of service requirements. For detailed information write to Wire Rope Sales Office, Palmer, Mass.

WICKWIRE ROPE
CF&I PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION

▲ For more details circle **NED-750 D5** on enclosed inquiry slip ▲

New Coating COLORED, TEXTURED ...AND TOUGH!

Has Ten Times More Abrasion Resistance

Get behind the wheel of the new DeSoto, and you'll notice the beautiful textured finish of its upper instrument panel. It's a coating that's colored for style, textured for glareless safety, tough for long service life.

You're looking at a new texture-finish coating . . . manufacturers tests show that it has *ten times the abrasion resistance* of similar conventional baked-on coatings! Oil smudges, grease, dirt and water wipe off without a trace. This is *the* coating for any decorated area that's subjected to frequent handling, dusting, or rubbing.

The wrinkle-textured finish is based on an organosol formulated from BAKELITE Brand Vinyl Dispersion Resins. It's sprayed on over a wash primer also formulated from BAKELITE Vinyl Resins, bonding it fast to metal. Baking at 350 deg. for 15 minutes fuses the surface coat into a continuous, tough film.

Auto interiors, household appliances, machine housings, metal furniture, office machines . . . any metal surface where you want color, texture, and durability—this is the coating for the job. Write Dept. BO-8.

"Armorhide" wrinkle-finish coatings are based on BAKELITE Vinyl Resins and produced by **John L. Armitage Co.,** Newark 5, N. J.

BAKELITE BRAND **Vinyl Dispersion Resins**

BAKELITE COMPANY
A Division of Union Carbide and Carbon Corporation
UCC
30 East 42nd Street, New York 17, N. Y.
The term BAKELITE and the Trefoil Symbol are registered trade-marks of UCC

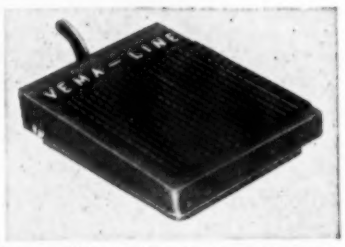
▲ For more details circle **NED-751 D5** on enclosed inquiry slip ▲

ENGRAVING MACHINE
1.7:1 to 3:1 reductions

Improved Preis-Panto model UE-3 engraving machine, offered with reductions graduated in tenths from 1.7:1 to 3:1, has a total of 21 sizes marked on the bars. A 26-in. long interchangeable and removable cope table and 26-in. long single slide attachable to an 18-in. copy holder permits removal of entire table for copy changes, removal of one or more lines for copy changes and setting of combinations of sizes. Increase in speed of spindle to 15,000 rpm results in smoother finish when using tungsten carbide cutters. Flexible machine light is furnished. Made by **H. P. Preis Engraving Machine Co.,** 645 Industrial Branch, Hillside, N. J.

▲ For more details circle **NED-752 D5** on enclosed inquiry slip ▲

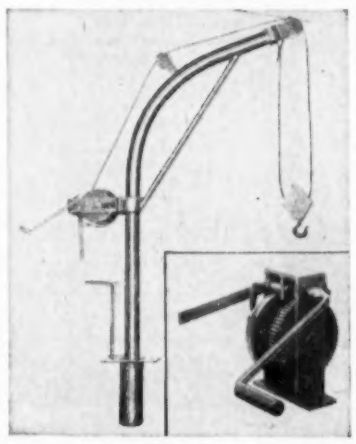
FOOT-OPERATED SWITCH
rated 5 or 15 amperes



Usable for normal and heavy duty switching, No. FS5 footswitch can be used to control machinery, appliances, tools and equipment. Switch is housed in cast aluminum, and actuating treadle operates with light foot pressure. Skid pad on bottom and rubber tread on top prevent foot slippage. Contact rating can be either 5 or 15 amp, and switch is available with or without cord and series plug. Made by **Vemaline Products Co.,** Dept. NED, P. O. Box 222S, Hawthorne, N. J.

▲ For more details circle **NED-753 D5** on enclosed inquiry slip ▲

TRUCK CRANES & WINCHES
manually operated, speed handling



Designed to conserve labor, truck-mounted cranes and hand operated winches also speed materials handling. Cranes in 500, 1000 and 2000-lb capacities have full-circle swing and can be used by one man. Winch is offered in two styles, each of 1000-lb capacity. One model has a 6-in. band brake and needle bearings. Cranes and winches have steel cut gears and a drop forged steel ratchet which is spring loaded for safety. Made by **H. S. Watson Co.,** 1313 67th St., Emeryville, Calif.

▲ For more details circle **NED-754 D5** on enclosed inquiry slip ▲

FOLDING WORK TABLE
for assembly, inspection, packing use

Constructed to withstand severe use, these versatile work tables fold easily and store compactly when not in use. They provide flexibility for use in assembly, inspection, packing and shipping and as work benches for light tools and machines. Standard top is ¾-in. plywood, sealed and hot lacquered and reinforced with 1¾-in. steel channel on perimeter. Edges are protected by extruded plastic molding that will not dent or chip. Available top materials include linoleum, tempered Masonite and plastic. Legs are 1-in. welded carbon steel tubing with lock that secures them in folded and extended positions. Table heights from 24 to 36 in., widths of 24, 30 and 36 in. and lengths of 60, 72, 84 and 96 in. are offered. Made by **Midwest Folding Products,** Dept. 205N, Roselle, Ill.

▲ For more details circle **NED-755 D5** on enclosed inquiry slip ▲

Low-cost case marker saves $

pays for itself in weeks!

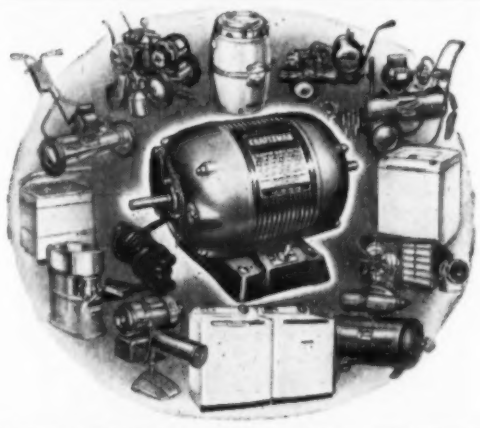
***ROLACODER** Imprinter attaches to conveyor or case-sealer*

Now you can do away with that costly extra operation for manual rubber-stamping or stencilling of code-dates, lot numbers, contents descriptions, etc. on cases . . . or reduce big inventories of completely printed cases . . . and save thousands of dollars annually. Use an inexpensive ROLACODER machine to mark your cases automatically on the production line. Compact, precision-made ROLACODER is friction-operated, self-inking—makes single, accurately located imprint on each case to register with other copy. Uses quick-change rubber type or dies, holds 8-hour ink supply. Different models available to imprint top, ends, sides of small or large boxes, cartons, cases, other packages. *Write for descriptive literature*

Gottscho **ADOLPH GOTTSCHO, INC.** **Dept. N, Hillside 5, N. J.** *Automatic* **CODING, MARKING, IMPRINTING MACHINES**

In Canada: **RICHARDSON AGENCIES, LTD., Toronto & Montreal**

▲ For more details circle **NED-756 D5** on enclosed inquiry slip ▲



SEARS, ROEBUCK and CO. PROTECTS
"Buy with Confidence" Quality

with KLIXON PROTECTED MOTORS

Sears, Roebuck and Co. is the world's foremost mail order organization and leading operator of wholly owned retail stores.

Among their well-known merchandise are many products which are operated by electric motors. To safeguard them against burnouts and thus insure dependable operation of the equipment for their customers, Sears specifies that these motors be equipped with KLIXON Protectors.

The reason . . . years of Sears experience proves KLIXON Protectors can be depended upon to provide positive protection and extend life of motors.

Should a motor become dangerously overheated due to overloads, stalled rotor or other causes, the KLIXON Protector snaps the power "off". If an automatic type of protector is used, it restores the motor to service automatically as soon as a safe working temperature is regained . . . or if a manual reset type of protector is used, the motor will remain "off" until manually restored.

You, too, can keep motors in your equipment operating safely under adverse conditions, reduce service calls and repairs by specifying and using KLIXON protected motors. The additional cost is low, pays for itself over and over by reducing motor burnouts.

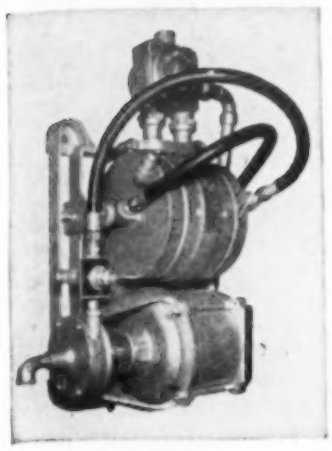
METALS & CONTROLS CORP.
SPENCER THERMOSTAT DIVISION
1904 Forest St., Attleboro, Mass.

▲ For more details circle **NED-757 D5** on enclosed inquiry slip ▲

MANUFACTURED BY
GEORGE K. GARRETT CO., INC. • Philadelphia 34, Pa.

▲ For more details circle **NED-758 D5** on enclosed inquiry slip ▲

HOT SPRAY cuts rejects on production lines



CIRCAFLO 600

Paint department bottlenecks are said to be eliminated with the introduction of the uniform viscosity and controlled temperature application of the Spee-Flo hot spray process. Standard industrial finishes can be expected to give better coverage and more mileage when used with the new, all electric Circaflo 600. One coat of heat reduced, high solids film replaces two coats, for a faster sag-proof application. Simple and maintenance free, the Circaflo is now in production by the Spee-Flo Company.

SPEE-FLO Corp. DEPT. C6 • HOUSTON 2, TEXAS

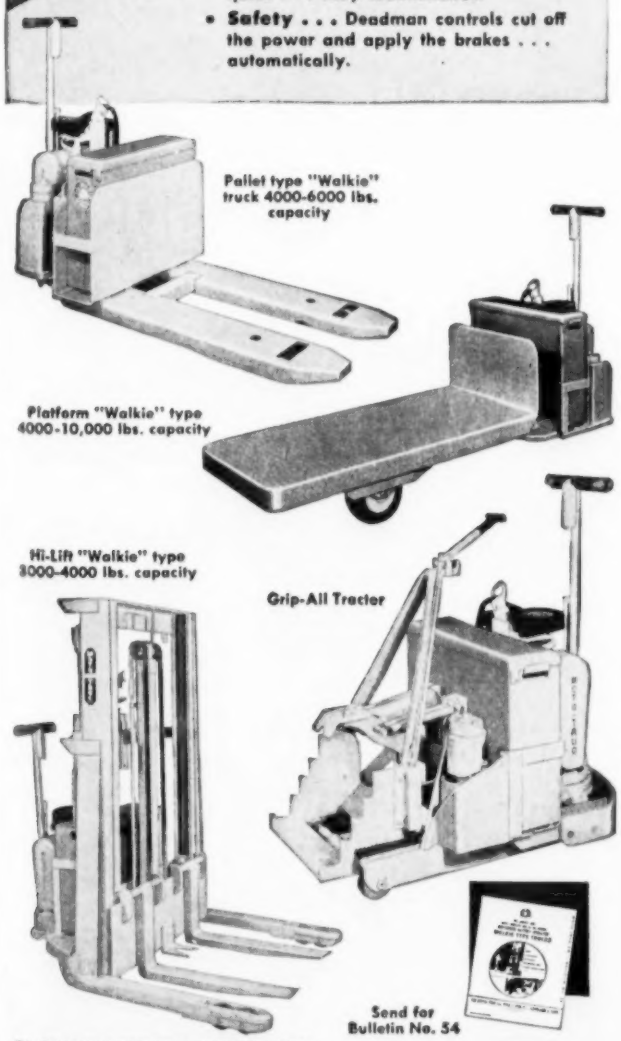
Advt. 8487

▲ For more details circle **NED-759 D5** on enclosed inquiry slip ▲

DESIGNED & MANUFACTURED WITH YOU IN MIND

Here's Why...

- **Maximum Maneuverability . . .** some models only 23¾" longer than the load . . . space efficiency plus!
- **Stability . . .** low center of gravity offers maximum stability.
- **Ease of Operation . . .** Patented Roller Grip Controls offer "Simplified Operation".
- **Ease of Maintenance . . .** MOTO-TRUC design offers the finest in quick . . . easy maintenance.
- **Safety . . .** Deadman controls cut off the power and apply the brakes . . . automatically.



REPRESENTATIVES IN PRINCIPAL CITIES

The MOTO-TRUC Co.

1961 E. 59th St. • Cleveland 3, Ohio

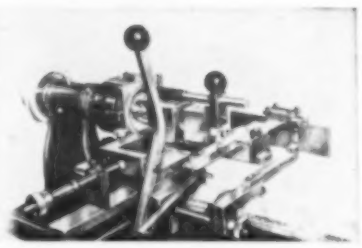
Pallet . . . Platform . . . Hi-Lift Trucks

LARGEST EXCLUSIVE MANUFACTURER OF "WALKIES"

MOTO-TRUC Designers FOR THE INDUSTRY PATENTED

▲ For more details circle **NED-760 D5** on enclosed inquiry slip ▲

PROFILE TRACER ATTACHMENT for either wood or engine lathes



Centerless turning, precision duplicate turning, facing, fluting and reeding operations on wood, plastic, aluminum, steel and brass can be performed by this centerless profile tracer lathe attachment. Unit attaches to either wood or engine lathes and is particularly adaptable for short run production. Precision duplicating is accomplished with aid of profile-tracer and templates cut from blank aluminum stock with ordinary shears. Template is bolted to unit, and tracing mechanism duplicates exact pattern on the stock. Illustration shows position of unit during facing operation. Made by **Turnomat Co.**, Brockport 68, N. Y.

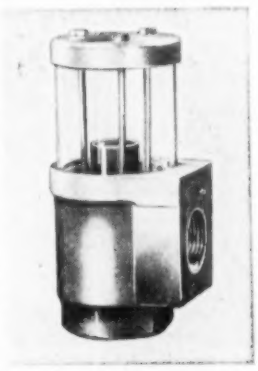
▲ For more details circle **NED-761 D5** on enclosed inquiry slip ▲

RIGHT ANGLE GEAR DRIVE furnishes up to 2 hp at 1800 rpm

Precision cut gears in model RA 225 right angle drive are enclosed in a cast iron housing, assembled on ground shafts and mounted on ball or tapered roller bearings. Miter gear drive is available with standard 1 to 1 ratio and furnishes up to 2 hp at 1800 rpm. Normally offered with a right hand extension, it can also be furnished with an upward or downward extension, hardened gears or special ratio. Base is 6¼ in. wide and height is 5 13/16 in., with extensions 6 in. from center. Made by **Grant Gear Works, Inc.**, 179 W. Second St., Boston 27, Mass.

▲ For more details circle **NED-762 D5** on enclosed inquiry slip ▲

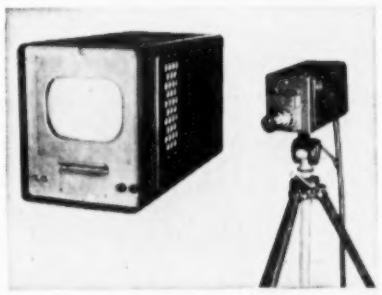
OVERFLOW SIGHT checks oil flow, level and clarity



Typical applications for style SO overflow sights are on large ring oil or reservoir type bearings of steam turbines or on gear boxes. Used on oil lines of circulating systems, they maintain a constant visible oil level and permit checking of liquid flow and clarity. Flow of liquid is upward through a bottom center inlet overflowing stand pipe. Sight chamber is vented. Aluminum alloy bodies have Lucite sights, with glass sights available where the temperature exceeds 160° F. Also available is Lucite top enclosure plate for observing flow from an elevated point. Made by **Oil-Rite Corp.**, 2364 Waldo Blvd., Manitowoc, Wis.

▲ For more details circle **NED-763 D5** on enclosed inquiry slip ▲

INDUSTRIAL TV SYSTEM is of closed-circuit design



Designed for heavy-duty exacting industrial applications, ITV-6 closed-circuit television system reproduces sharp, high-definition pictures of 550 to 600-line resolution. The 10-in. monitor kinescope offers a viewing area of 51 sq in. and is aluminized for maximum picture brightness and contrast. Equipment will operate continuously under extremes of shock, vibration, temperatures and conditions that are hazardous to personnel. Camera can be mounted up to 500 ft from monitor unit. System operates efficiently over a range of 100 to 135 v. Price of complete system is $3985. Made by **Radio Corp. of America**, Engineering Products Div., Camden 2, N. J.

▲ For more details circle **NED-764 D5** on enclosed inquiry slip ▲

★ Heavy grey iron casting, accurately machined surfaces.

★ Power factor—15 times air line pressure of 5 to 150 lbs.

★ Throat clearance to center of 10" diam. circle.

★ Ram clearance 0 to 5", stroke 5/8", table 5" x 5".

This useful, high quality No. 80 SPEEDY AIR PRESS is the last word in air power engineering—the result of 34 years of specialization in diaphragm compression. Extremely sturdy, it does dozens of jobs formerly handled by expensive presses—and does them more quickly, easily and economically. Operated by Speedy Foot Control, Hand, or Fingertip Valves. Order from your supplier or write direct.

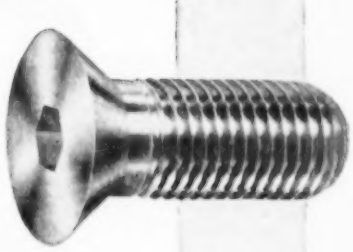
Write for New Catalog of Speedy Air Tools and Accessories

W. R. BROWN CORP., 2647 N. Normandy Ave., Chicago 35

AIR TOOLS • AIR VISES • AIR REGULATORS • FILTERS • COMPRESSORS

▲ For more details circle **NED-765 D5** on enclosed inquiry slip ▲

specify standard



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Flat Head SOCKET CAP SCREWS

for assembling thin-section materials

Head design permits flush assembly. Uniform 82° angle under head provides maximum contact. Accurate hex socket assures positive, nonslip wrenching. Standard sizes—#4 to ¾" in a full range of lengths—are stocked by authorized industrial distributors. Ask your supplier for Bulletin 877. Or write STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

UNBRAKO SOCKET SCREW DIVISION SPS JENKINTOWN PENNSYLVANIA

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KODAGRAPH MICRO-FILE EQUIPMENT

Here's everything you need for a low-cost, trouble-free microfilming operation . . . one that will meet *your* individual requirements.

- **Kodagraph Micro-File Machines**—four separate models designed to meet a variety of conditions. *Each* a high-precision unit which can be operated by anyone.
- **Kodagraph Micro-File Film**—extremely fine grained, high resolution. Assures sharp, crisp rendering of all details.
- **Kodagraph Film Readers,** which permit you to view your films quickly, conveniently.
- **Kodagraph Micro-File Enlarger,** which enables you to make paper enlargements from 16mm. and 35mm. microfilms which are comparable in clarity to the originals.
- **Kodagraph Print Film**—ideal for making positive copies of negative microfilm records.

Write today for free illustrated booklet giving full information.

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak

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Deburrs 4 jobs for every 3 deburred with old-style tools. Patented swivel-action leads blade along edges . . . no more nicks, scallops, or wrist and arm fatigue.

Hardened high speed tool steel interchangeable blades—small blade for tubing and small holes—a larger blade for straights, radii and large tubing.

Use BurrQwik for all metals and plastics—for cut, punched, molded and processed edges.

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Without obligation...test—try BurrQwik on your own production jobs—prove its value!

Rated companies may request on letterhead a complete BurrQwik set 500. Act today! Include name and address of your regular industrial supply house.

Anodized aluminum handle and 2 blades, in tough vinylite Pocket Pak—ready for instant use!

A WORLD OF KNOW-HOW
ENGINEERING, MACHINING, WELDING, METAL STAMPINGS, AIRCRAFT PARTS

Universal METAL PRODUCTS, INC.

411 VINELAND ST., BASSETT, CALIF. • KANSAS CITY, MO. BRANCH: CONGRESS BLDG., 3527 BROADWAY

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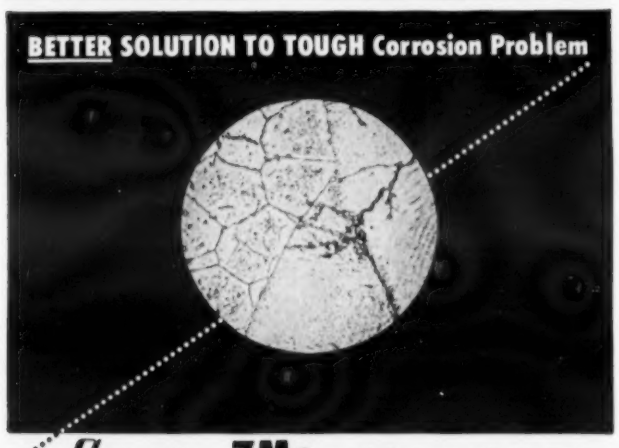
BETTER SOLUTION TO TOUGH Corrosion Problem

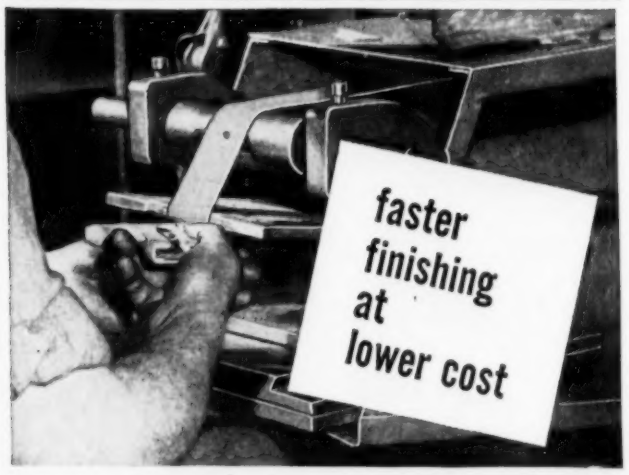


Carpenter 7Mo Stainless Tubing & Pipe

This photomicrograph may help you solve *stress corrosion cracking* problems. It shows Carpenter 7Mo Stainless Pipe (left) welded to a Type 316 fitting. Note how corrosion-inviting cracks in fitting (right) stop at interface of pipe. The 7Mo pipe had outlasted *three* such fittings before the picture was made because of its stout resistance to stress corrosion cracking, even in the presence of chlorides or other caustic and sulphite solutions. It also offers excellent resistance to general corrosion and pitting, and to oxidation up to 1900°F. Food and chemical processing plants, pulp mills, oil refineries and other industries have found that Carpenter 7Mo Tubing and Pipe are *cost-saving* "problem-solvers'. They may belong in your plant, too. Write for Technical Bulletin containing comprehensive data on Carpenter 7Mo.

THE CARPENTER STEEL COMPANY
Alloy Tube Division, Union, New Jersey

▲ For more details circle **NED-769 D5** on enclosed inquiry slip ▲



. . . with Jewel Brand Abrasive Belts

FASTER . . . because Jewel Brand Abrasive Belts feature sharper, tougher cutting grains that grind, smooth, or polish metals, wood, leather, rubber, or plastics with a minimum of clogging or filling . . . keep production rolling.

EASIER . . . because Jewel Brand Belts feature exclusive, smooth-action Velvet Joints that prevent jumping, bumping, or scratching . . . keep finishing operations smoother from start to finish.

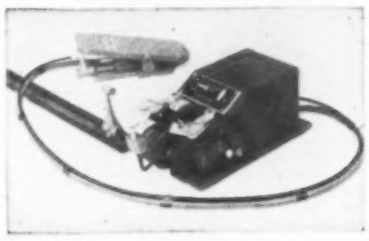
LOWER COST, TOO! Because they last longer under continuous operation, Jewel Brand Belts eliminate frequent replacements . . . keep operating costs at a minimum.

Prove these advantages for yourself. Let an experienced Jewel Brand Abrasive Engineer or Industrial Distributor help you select the right belt for your finishing operation now. Write for details. Abrasive Products, Inc., 525 Pearl Street, South Braintree 85, Mass.

JEWEL BRAND *coated* **ABRASIVES**

▲ For more details circle **NED-770 D5** on enclosed inquiry slip ▲

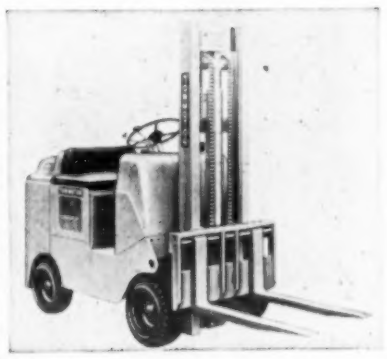
WIRE CUTTER & STRIPPER
handles No. 14 to 30-AWG wire



Single simultaneous action by this Mark I wire cutter and stripper cuts and strips both ends of insulated wire in less than 1 second. Air blast chip ejection system permits high production rates by eliminating electrostatic adhesion of chips in the cutting heads. Wire ranging from No. 14 to 30 AWG can be stripped of plastic, cloth, rubber, Teflon and glass braided insulation. Controlled by foot valve, machine operates on shop air pressure. Changeover to handle different wire size is accomplished in less than 1 minute by unskilled operators. Made by **Technical Devices Co.,** 2342 Centinela Ave., Los Angeles 64, Calif.

▲ For more details circle **NED-771 D5** on enclosed inquiry slip ▲

FORK LIFT TRUCK
5000-lb unit is highly maneuverable



The maneuverability and compactness of a small lift truck is built into Model 500 and 500-D fork lift trucks capable of handling loads up to 2½ tons. Available in both gasoline and Diesel powered models, this lift truck is designed with turning radius of only 81 in. and will operate smoothly in aisles 69 in. wide. Made by **Towmotor Corp.,** 1219 E. 152nd St., Cleveland 10, O.

▲ For more details circle **NED-772 D5** on enclosed inquiry slip ▲

VOLT-OHMMETER
fits in shirt pocket

Unaffected by steel-topped benches, heavy current carrying circuits and stray magnetic fields, the model 355 Midgetester volt-ohmmeter measures only 2¾ x 4½ x 1 in. It has a sensitivity of 10,000 ohms per volt on both alternating and direct current. Fourteen measurement ranges, five for ac voltages, five for dc voltages and four for dc resistance, are available. Accuracy of the pocket-size instrument is 3 per cent on direct current and 5 per cent on alternating current. Two batteries are inside the case. Made by **Simpson Electric Co.,** 5201 W. Kinzie St., Chicago 44, Ill.

▲ For more details circle **NED-773 D5** on enclosed inquiry slip ▲

AIR CONDITIONERS
features five adjustable louvers

Mounting flush with curtains, series of ¾ and 1-ton room air conditioners can be installed at any distance from 6 to 18 in. into the room. Cooling capacities

are 8000 and 11,500 Btu per hour, respectively. All units measure 31 3/16 x 26⅜ x 15⅛ in., have five separate adjustable louvers for air circulation in varied directions, evaporator fan which exhausts directly into the condenser fan air stream and panels supplied in six colors. Automatic thermostat operation is standard on 1-ton models, optional on ¾-ton models. Made by **Emerson Electric Mfg. Co.,** 8108 Florissant Ave., St. Louis 21, Mo.

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DEKA BORE repeats to .0001" in 30 seconds

DEKA-BORE (and only DEKA-BORE) can be adjusted in fractions of 1/10,000" on the full diameter as easily as reading 1/16" on a steel rule. NOT A VERNIER OR SCROLL ADJUSTMENT. Can be calibrated in increments of .00005 on radii or .0001 on diameter as easily as picking up .002 on a conventional micrometer dial.

100% GUARANTEED!

write for free demonstration or literature!

PRECISION TOOL & MFG. COMPANY OF ILL.
1305 SOUTH LARAMIE, CICERO 50, ILLINOIS NED-4

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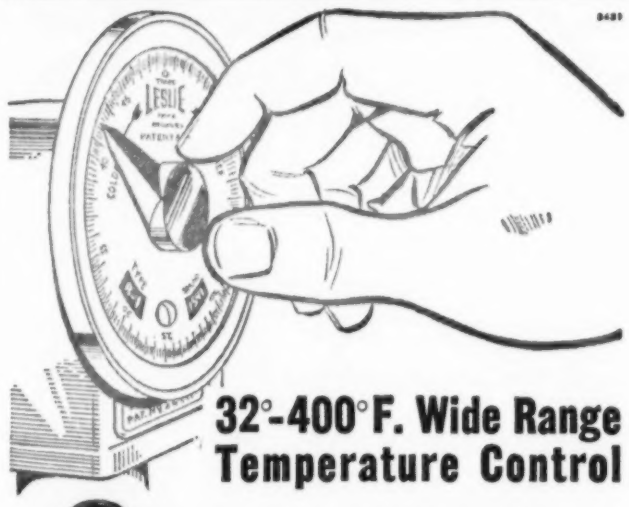

32°-400°F. Wide Range Temperature Control

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- Selective fingertip setting over full range
- Instrument control accuracy
- Rugged, shock proof operating parts
- Corrosion-protected, bi-metallic element
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Send for Bulletin 5303

LESLIE **TEMPERATURE PILOTS**
LESLIE CO., 227 Grant Avenue, Lyndhurst, N. J.

Regulators Since 1900—"Still Far Ahead in Quality and Performance"

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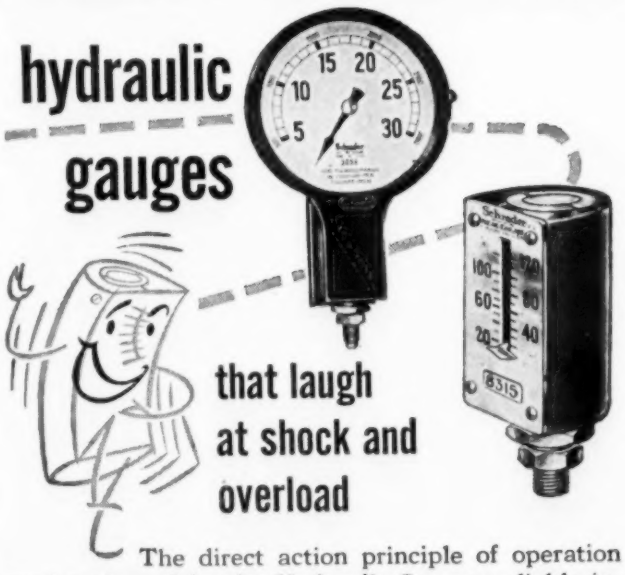
hydraulic gauges



that laugh at shock and overload

The direct action principle of operation makes these **Schrader Hydraulic Gauges** reliable indicators of pressure, even under shock and overload.

Easily installed, they are also easy to maintain.

The Schrader catalog describes the full line of Schrader Hydraulic Pressure Gauges, as well as Schrader air line equipment. A copy is yours for the asking. Write for it today.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
459 Vanderbilt Avenue, Dept. P-4, Brooklyn 38, New York

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production flows smoothly...

at top speed, at all times, yet free of rejects

Kester makes 62 different fluxes to meet any requirements. Why not write our Technical Department for full information?

KESTER SOLDERING FLUX

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KESTER SOLDER

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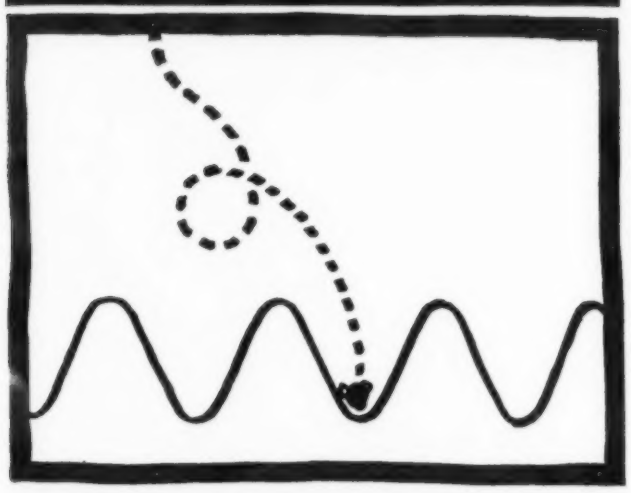
DROODLES by ROGER PRICE



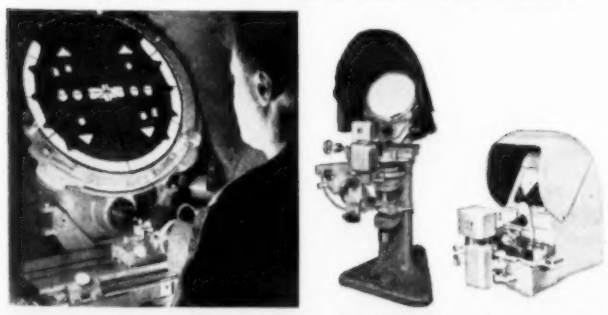
"RECORD BUG GETTING INTO THE GROOVE"

This provocative Droodle is one of my finest works. One of the toughest jobs I've ever tackled, too, because I'm a stickler for the authentic, and stood poised over the spinning disc for four hours, in order to capture the bit of action so beautifully depicted above.

Our subject is a flea named Sam. Quite a character, but *talented!* Sam is the only flea ever to study music at the Juilliard Academy. Had to leave in his junior year, though — got into a jam with an accordion teacher.

Anyway, Sam listened and listened to this record — "Doggie in the Window" — and then sprang in to investigate. When he discovered that the doggie under discussion was a Mexican Hairless, he took a powder and hasn't been seen since. Just as well, though, for he was due for a brush-off.

Don't *you* get a brush-off! Get in the groove and help your production department set new records for efficiency! How? Investigate how the Jones & Lamson Optical Comparator can speed up and improve inspection operations in your plant. J&L Comparators inspect and measure all sorts of parts rapidly, are accurate to .0001".



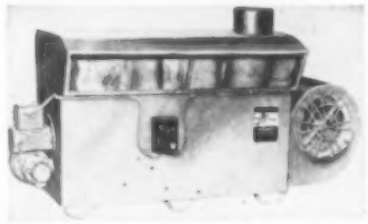
Punched holes in radio tube micas being inspected on a Jones & Lamson Optical Comparator. J&L makes a complete line of 11 Comparators, in both bench and pedestal types

Write today for our booklet, "Comparators — what they are and what they do". Dept. 710

J&L JONES & LAMSON
JONES & LAMSON MACHINE COMPANY, 528 Clinton St., Springfield, Vt., U. S. A.

▲ For more details circle NED-779 D5 on enclosed inquiry slip ▲

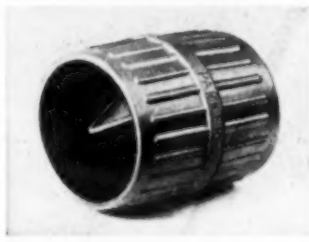
SEMIPORTABLE SPACE HEATER
heats and circulates 2500 cfm of air



This semiportable Waikiki No. 4820 space heater can be used to heat buildings under construction, garages, loading docks and sheds, or to cure concrete. Unit heats and circulates from 900 to 2500 cfm of air. It can have home type oil, natural gas or bottled gas burner. Fuel nozzles can be changed to give 80,000 to 200,000 Btu input. Air is circulated around three combustion chambers by squirrel-cage type blower. Once started, variable thermostats take over, causing heater and blower to cycle on and off automatically. Metal cabinet is mounted on legs so that unit can be picked up and moved about, or suspended from the ceiling. Unit measures 48 x 24 x 36 in. and weighs 400 lb. Made by **Vapor Heating Corp.**, Dept. PR-124, 6420 W. Howard St., Chicago 31, Ill.

▲ For more details circle NED-780 D5 on enclosed inquiry slip ▲

TUBE BURRING TOOL
for internal and external use



Copper, brass, aluminum alloy and annealed steel tubing in sizes from 3/16 through 1½ in. OD can be deburred by hand-operated In-Ex burring tool. Conical arrangement of cutting blades makes it self-centering. Tube is inserted in one end for external burring, and in the other end for inside burring. Hollow ground cutting blades cut in either direction of rotation. Made by **Parker Appliance Co.**, Tube & Hose Fitting Div., Dept. NE, 17325 Euclid Ave., Cleveland 12, O.

▲ For more details circle NED-781 D5 on enclosed inquiry slip ▲

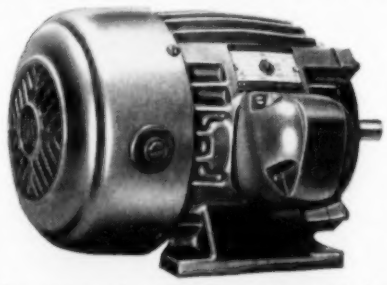
AUTOMATIC FLUXING SYSTEM
meters liquid flux into fuel gas

Automatic fluxing system for production and maintenance brazing operations meters liquid flux into the fuel gas according to size of brazing tip and regulator pressures. Compact Jet Flux Auto-Dispenser No. 1 carries a 40-hour charge and is attached to the welder's hand truck or fuel line at the production brazing station. System is for production brazing of carbon and low alloy steels, brass and copper-base alloys and Monel, and can be used in surface and socket silver brazing. Made by **All-State Welding Alloys Co.**, 249 Ferrisden Ave., White Plains, N. Y.

▲ For more details circle NED-782 D5 on enclosed inquiry slip ▲

TOTALLY-ENCLOSED MOTOR
offered in 1 to 10-hp ratings

Conforming to recently adopted dimensional standards of NEMA, type J totally-enclosed motors are produced in 1 to 10-hp fan-cooled models and in 1 and 1½-hp fanless types. They are engineered for operation where fumes, dusts and moisture are prevalent. Bearings are accessible without disassembly, and externally exposed surfaces are cast iron for corrosion resistance. Ribbing adds strength and heat dissipating capacity. Improved slinger seal on shaft adjacent to bearing prevents entrance of moisture. Split-hub ventilating fan is protected by cast iron guard. Lubriflush system of transverse lubrication permits thorough purging of old grease when desired. Made by **U. S. Electrical Motors Inc.**, Dept. NED, 200 E. Slauson Ave., Los Angeles 54, Calif.



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METZGAR CONVEYOR SPECIALTIES

METZGAR CONVEYOR CO.
416 Douglas St., N.W., GRAND RAPIDS 4, MICHIGAN

▲ For more details circle NED-784 D5 on enclosed inquiry slip ▲

New! **VARY-TALLY**
Multiple-Unit Reset Counter

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GOOD NEWS ABOUT WHEELS

NEWS! About how 44 centers and only 22 bearings give a choice of 144 sizes to 12" x 4".

NEWS! About American Steelite® light-weight champs—weighing up to 9 pounds less than ordinary wheels.

NEWS! About American Tread-Lock method—the tread is *Rolled On So It Won't Roll Off!*

NOW! Get all this NEWS in the NEW bulletin on American Industrial Wheels, from:

THE AMERICAN PULLEY COMPANY, Phila., Pa.

The American Pulley Company 4294 WISSAHICKON AVE., PHILA. 29, PA.

Gentlemen:
I want the NEWS about Wheels—rush me your new American Steelite® Wheel Bulletin.
Name_____
Firm Name_____
Address_____
City_____ Zone_____ State_____

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CAPCO Dock Covers completely enclose the space between car and building doorways protecting loading and unloading during bad weather...preventing accidents... insuring against loss of heat or refrigeration. 51 different models in any size for every loading problem.

CAPCO

Write for literature and name of nearest distributor.

622-24 PROSPECT AVENUE • KANSAS CITY 24, MISSOURI

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LIGHTNING-FAST

ELECTRO PUNCH

Saves Time and Money for Telechron Clocks

Write — or phone Bigelow 4-6370 — for folder showing complete line of Black & Webster solenoid-operated production tools.

BLACK & WEBSTER, INC.

Dept. 1, 445 Watertown Street, Newton 58, Mass.

SOLENOID-OPERATED PRODUCTION TOOLS

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FASTEN, HINGE or PIN

with

DRIV-LOK PINS

FASTER ASSEMBLY... LOWER COSTS

POSITIVE ANCHORING ...won't come loose

DRIV-LOK Pins are responsible for great economies and product improvement in thousands of applications. For machinery, finished products, components and sub-assemblies, DRIV-LOK Pins offer definite advantages in time, labor and cost savings. We can help you better if you will write, giving us the nature of your problem. Catalog and Samples sent without obligation.

STANDARD TYPES a type for every need.

Type A Type B Type C Type D Type E
Also Types F and G

WRITE FOR CATALOG

DRIV-LOK PIN COMPANY

717 Chauncy Street Sycamore, Illinois

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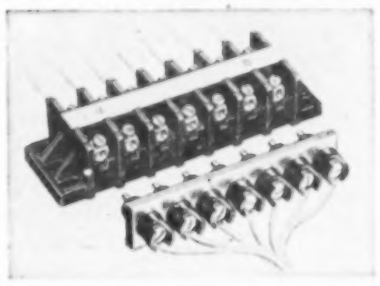
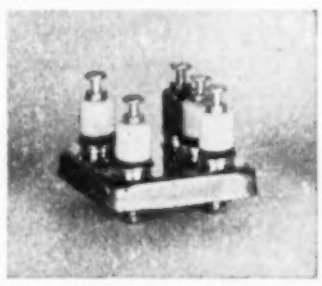
TERMINAL BLOCKS
multi-contact plug-in type



Combination of a Curtis FTLP feed-through long-pin terminal block and a RH block, both standard high-current items, results in multi-contact plug-in terminal blocks. It provides high pressure solderless anchoring for each individual connector. The FTLP blocks have ample clearance and leakage distances for use in circuits carrying up to 300 v, 20 amp. They can be specified in any number of terminals from 1 to 16. RH blocks, factory assembled with from 1 to 20 terminals, are rated at 750 v, 50 amp. Made by **Curtis Development & Mfg. Co.**, 3266 N. 33rd St., Milwaukee 16, Wis.

▲ For more details circle NED-790 D5 on enclosed inquiry slip ▲

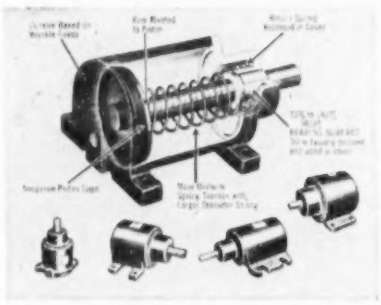
SEALED TERMINALS
shock resistant and leakproof



Steatite insulators which compress a silicone rubber grommet against an extruded hole in the header form a leakproof oil seal capable of withstanding high internal pressure in this line of hermetically sealed terminals. Direct current metallic migration is prevented and operating temperatures range from −60 to 500° F. Standard voltage rating is from 2000 to 7000 v. Terminals are approved under MIL-T-27 for transformers and MIL-C-25 for capacitors. Minimum size for terminals is 0.187-in. diameter and mounting can be on ¼-in. centers. Made by **Pilot International Corp.**, Robco Mfg. Div., Dept. T-2, 27-01 Bridge Plaza N., Long Island City 1, N. Y.

▲ For more details circle NED-791 D5 on enclosed inquiry slip ▲

AIR CLAMP CYLINDERS
single-acting units redesigned



Single-acting Air-Clamp cylinders, available in 26 new models, have been redesigned with larger bearing surfaces, larger diameter return springs and Oilite ram bearings. Surfaces are now machined where required, and tolerance, necessary to jig and fixture work, is maintained. Other improvements are use of full-floating Hycar synthetic rubber piston cups and baked-on wrinkle finish outside. Low air consumption of cylinders helps reduce costs in feeding, holding and ejecting of finished pieces. Made by **Mead Specialties Co.**, Dept. AC-40, 4114 N. Knox Ave., Chicago 41, Ill.

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FIBER SANDING DISKS
abrasive set in spiral design

Unusual sanding speed is attested for Spiro sanding disks which have curved, concentric nonabrasive areas between sanding surfaces. This spiral design serves to throw off waste dust and grit at a tangent to the right and directly to the floor. Disks are made of pure aluminum oxides affixed by permanent adhesive to laminated fiber backing and then baked. They are waterproof and will not dry out, crack or disintegrate regardless of length of time used. Gum, which accumulates only after long use, can be cleaned off with steel file or brush. Line includes five types of grit, each available in 7 or 9-in. diameters with either ½ or ⅞-in. centers. Made by **National Gas Equipment Co.**, Spiro Div., P. O. Box 1284, Hattiesburg, Miss.

▲ For more details circle NED-793 D5 on enclosed inquiry slip ▲

For Masking

SELF-STICKING PERMACEL® TAPES

In our complete line, there's a self-sticking tape for every job... write Permacel Tape Corporation, New Brunswick, N. J.

▲ For more details circle NED-794 D5 on enclosed inquiry slip ▲

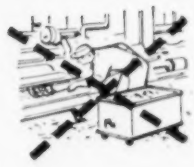
cut costs with "hands off" scrap removal

Write today for Bulletin MF-530 for detailed information

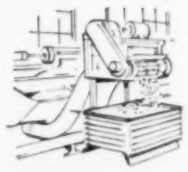
with CHIP-TOTE® removes chips, turnings and borings continuously

2057-MF

Cut production costs by eliminating downtime for manual scrap removal!



While machines are in continuous operation, the MAY-FRAN CHIP-TOTE automatic scrap conveyor removes borings, turnings and chips from your high production machine tools. Design features permit a wide range of sizes to fit all standard multiple spindle or automatic machine tools.



To slash production costs, specify ... MAY-FRAN CHIP-TOTE automatic scrap conveyors.

DESIGNERS AND ENGINEERS OF COMPLETE SCRAP HANDLING SYSTEMS

MAY-FRAN ENGINEERING, INC.

1711 CLARKSTONE ROAD • CLEVELAND 12, OHIO

▲ For more details circle NED-795 D5 on enclosed inquiry slip ▲

2000...6000 PSI HYDRAULIC PRESSURE
From Your Shop Air Line

With this WATSON-STILLMAN Double Acting Air Engine Pump

A compact, lightweight hydraulic pump for many applications:

- For Hydrostatic testing
- As a pumping unit for all types of hydraulic service
- To operate hydraulic jacks or machinery
- To fit your special hydraulic applications

Simply connect the pump to your shop air line or field compressor. Operates on pressures from 50 to 150 psi.

Write today for Bulletin A-5

WATSON-STILLMAN FITTINGS DIVISION
HKP H. K. PORTER COMPANY, INC.
Roselle, New Jersey

▲ For more details circle NED-796 D5 on enclosed inquiry slip ▲

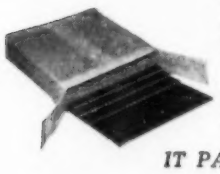
Put machines on ISOMODE® PADS

...to save money

That's right—installed under machine feet, these ribbed, resilient pads cut costs. First—by absorbing most of the shock and vibration normally transmitted to floor. This in turn reduces building damage and machine maintenance—also muffles annoying noise.

In addition, you save on *installation costs*. No bolting needed—machines stay put on the pads. No waste either—you use only as much as needed for the load by easily cutting pads to size. One economy standard package gives you mountings for 80 tons of machinery—including punch presses.

Made of Neoprene, Isomode Pads last for years. Write for Bulletin 415 and prices.



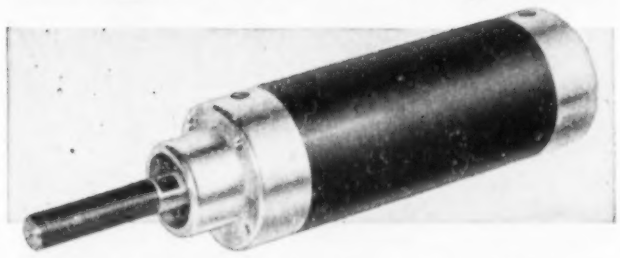
® *Trade Mark Reg. U.S. Pat. Off.*

IT PAYS TO KEEP A PACKAGE IN STOCK

THE MB MANUFACTURING COMPANY, INC.
1066 State Street, New Haven 11, Conn.

▲ For more details circle NED-797 D5 on enclosed inquiry slip ▲

NEW NP Power Drive Cylinder



. . . has all the "most wanted" design features

No other cylinder offers so many vital features . . . including: compact, streamlined design; lightweight aluminum alloy and steel construction with *no* sacrifice of strength; sealed-in lubrication which eliminates need for external line lubricators; optional adjustable cushioning (can be added any time). Operates with air, water or oil without interchanging or adding parts.

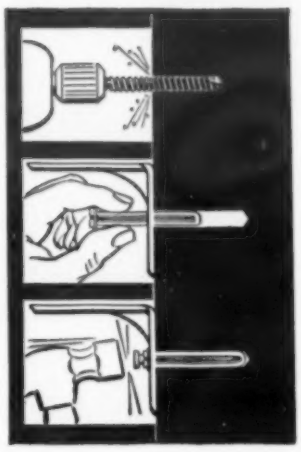
SPECIFICATIONS — Ratings: air — 200 psi; water or oil — 500 psi. Bore diameters: 1½", 2¼", 3", 4". Mountings: foot, flange, pivot, clevis, trunion.

For data sheets illustrating many other features, write: Industrial Actuators and Controls Division.

NATIONAL PNEUMATIC CO., INC. AND HOLTZER-CABOT DIVISIONS
125 Amory St., Boston 19, Mass.
Sales Service Representatives in Principal Cities throughout the World
Designers and manufacturers of mechanical, pneumatic, hydraulic, electric and electronic equipment and systems

▲ For more details circle NED-798 D5 on enclosed inquiry slip ▲

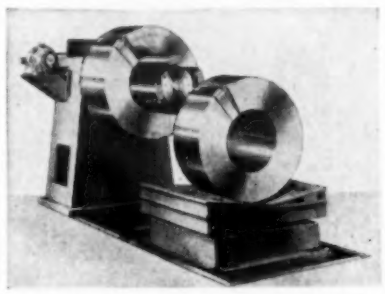
MASONRY FASTENER
anchors in any drilled hole



One piece DHD Hammer Drive aluminum alloy fastener can be effectively anchored into masonry, cinder block and concrete. It is supplied with a galvanized knurled nail which has good holding power. The ¼ x 1¼-in. size anchor has 1-ton holding power. Thirteen sizes from 3/16 x ⅞-in. to ½ x 3½ in. are available. Made by **Diamond Expansion Bolt Co.**, Dept. D1, Garwood, N. J.

▲ For more details circle NED-799 D5 on enclosed inquiry slip ▲

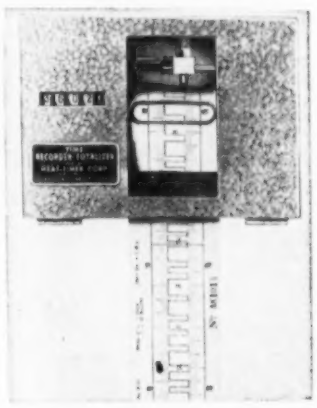
COIL LIFT & REEL
designed to meet needs of each job



Coils weighing up to 40,000 lb can be handled on this combination coil lift and decoiling reel. Offered with mechanical or hydraulic elevation, lift has either electric or hydraulic traverse action. It can be pit or floor mounted for in-line or right-angle travel with the coil reserve saddle mounted as shown. Decoiling reel is furnished free-running or motorized for constant drive or for threading only. Drag type brake introduces tension to prevent overrunning. Hydraulic expanding mandrel is mounted on Timken bearings. Expansion is either motorized or manual. Units are available in combination or individually and are designed to meet requirements of each job. Made by **Dahlstrom Machine Works, Inc.**, 4241 W. Belmont Ave., Chicago 41, Ill.

▲ For more details circle NED-800 D5 on enclosed inquiry slip ▲

TIME RECORDER & TOTALIZER
provides continuous operation data



Chronologically marked tape from a large roll continuously passes through the time recorder and totalizer, recording the time and length of every "on" and "off" period of equipment. Instrument provides a continuous operation record of any electrically operated machine or process. Totalizer gives the total "on" time of the equipment. Tape speeds of 1 in. per 5 minutes, 1 in. per 15 minutes and 1 in. per hour are available. Single roll of tape lasts many months. Made by **Heat-Timer Corp.**, Dept. NER, 657 Broadway, New York 12, N. Y.

▲ For more details circle NED-801 D5 on enclosed inquiry slip ▲

WATT-HOUR METER TESTER
has wide voltage and current range

Accuracy and stability of performance over a wide range is provided by this type RST-2 Knopp Uniload rotating standard equipment for testing portable watt-hour meters. Test voltages of 120, 240 and 480 v are provided, and others are available if desired. There are 24 current ranges from ¼ to 100 amp. Tests can be made at power factors from unity down to 30 per cent. Modern desk design with sloping control panel affords convenience of operation. Made by **Electrical Facilities Inc.**, 4254 Holden St., Oakland 8, Calif.

▲ For more details circle NED-802 D5 on enclosed inquiry slip ▲

CHICAGO TRAMRAIL

JIB CRANES

FASTER HANDLING *at less cost*

- 360° Swing • Self-Supporting
- Capacities from ½ ton to 5 tons
- Complete Line of Pillar, Mast and Wall Type Jib Cranes

Write for Catalog

CHICAGO TRAMRAIL CORPORATION
1330 So. Kostner Avenue • Chicago 23, Illinois
OVER HEAD CRANES • STAK-RAK CRANES
MONORAIL SYSTEMS AND RACKS

▲ For more details circle NED-803 D5 on enclosed inquiry slip ▲

FOR MORE PRODUCTION..LOWER COSTS

Automate YOUR MACHINES with Pneu-trol

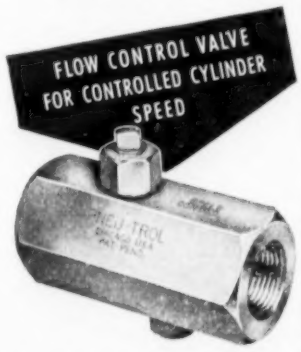
Standard drill press units converted for automatic push-button precision tapping and spot-facing operations. Production increase—400%!

"AUTO-PONENTS"

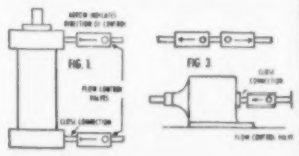
Pneu-Trol Flow Control Valves and Time Delay Control Switches are *basic automatic components* which permit low-cost conversion of any cylinder operated drill press, arbor press, punch press, etc. to automatic operation. They provide these advantages:

1. **Cylinder (and machine) speed control for safe operation.**
2. **Necessary controlled work cycle delay.**
3. **Less spoilage . . . more production from your present equipment.**
4. **PUSH BUTTON PRODUCTION.**

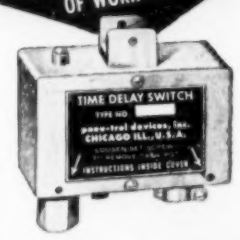
FLOW CONTROL VALVE FOR CONTROLLED CYLINDER SPEED



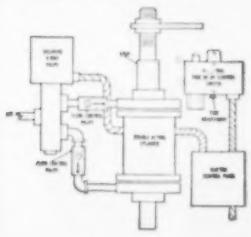
Pneu-Trol Valves combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control, and a floating retro ball check, which permits full flow in the opposite direction. Design provides close regulation in one direction, full flow in opposite direction. Available in 5 female pipe sizes—⅛" to ½". Valve bodies made of brass, aluminum, steel or stainless steel.



TIME DELAY CONTROL SWITCH FOR PRECISE DELAY OF WORK CYCLE



Provide controlled adjustable time dwell of solenoid operated air or oil supply valves. Range between ¼ and 60 seconds in 20 to 1 ratios. Compact—simple—foolproof—rugged. Easily mounted on machine. Available for various types of actuation. Typical diagram below.



Pneu-trol DEVICES, INC.
Components for Automation
1432 N. Keating Ave., Chicago 51, Ill.

▲ For more details circle NED-804 D5 on enclosed inquiry slip ▲

New Efficiency

The sensational new FLEX-A-PRENE Paint Mask keeps out paint pigments and solvents with amazing efficiency, yet it's light (just 1 ounce), comfortable and so easy to talk and breathe through you hardly know you're wearing it.

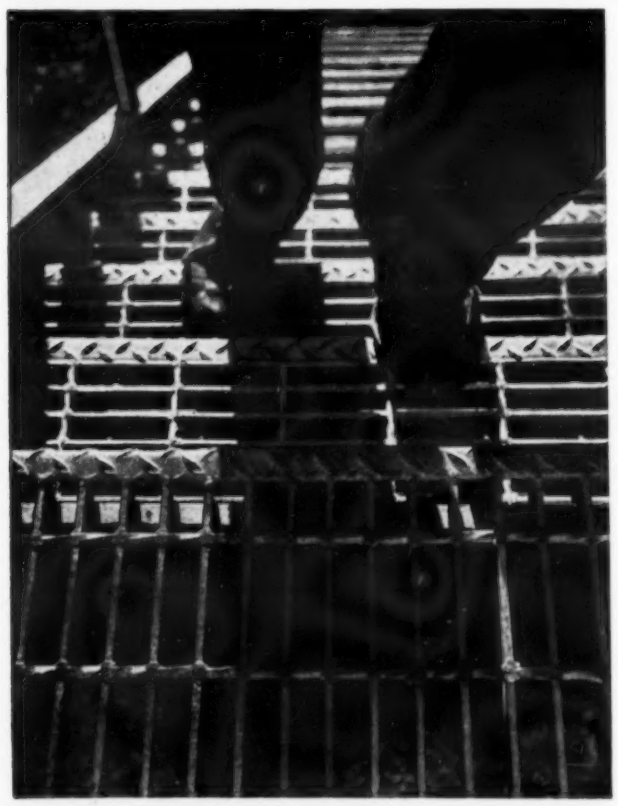
New Economy

FLEX-A-PRENE's low first cost is only part of the story. Most important savings come from its endurance in service and time saved through less frequent filter replacements. You can expect at least 100 hours of exposure before replacement is necessary.

Sample: $1.50 postpaid

FLEXO PRODUCTS, INC. Cleveland 13, Ohio

▲ For more details circle **NED-805 D5** on enclosed inquiry slip ▲



...make every step a safe step

BLAW-KNOX ELECTROFORGED®

STEEL GRATING and STAIR TREADS

On stair treads, walkways, catwalks, platforms and floors—both indoors and outdoors—you can provide safe walking conditions. For Blaw-Knox Electroforged Steel Grating brings you these exclusive features:

1. rigid one-piece construction—easy to install
2. non-slip twisted crossbar—for safe footing
3. three types of bearing bars
   - square bars—for smoothest walking surface
   - knurled bars (Furro-Grip)—for extra safety plus relatively smooth walking surface
   - serrated bars—for maximum safety under extremely hazardous skid conditions
4. No sharp corners to clog—self-cleaning
5. all surfaces accessible—easy to paint
6. maximum open area—for light and ventilation

Write for your copy of new Bulletin No. 2486—or send dimensional sketch for quotation.

BLAW-KNOX

BLAW-KNOX COMPANY

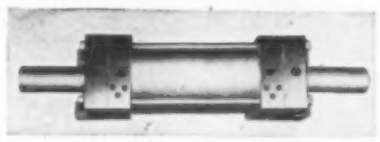
BLAW-KNOX EQUIPMENT DIVISION

Pittsburgh 38, Pennsylvania

GRATING APPLICATIONS: floors • platforms • walkways • catwalks • stair treads • fan guards • shelving • and many other uses, both outdoors and indoors, for versatile steel grating.

▲ For more details circle **NED-806 D5** on enclosed inquiry slip ▲

AIR-HYDRAULIC BOOSTER
delivers pressures up to 10,000 psi



Capable of delivering an unlimited amount of high pressure fluid for operation of hydraulic cylinders and equipment, this continuous-action reciprocating air-hydraulic booster operates from plant air compressor. It is available in ratios to give pressures to 10,000 psi and over. Unit which is stocked for immediate delivery in 25 to 1 ratio units produces 2000 psi hydraulic output from 80-psi air input. It consists of a 5-in. diameter air piston driving two 1-in. diameter hydraulic rams, each having a 6-in. stroke. Hydraulic pressure is continuous. Made by **Miller Fluid Power Co.**, 2002-08 N. Hawthorne Ave., Melrose Park, Ill.

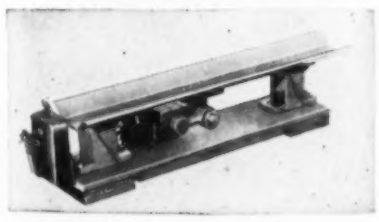
▲ For more details circle **NED-807 D5** on enclosed inquiry slip ▲

CONSTANT TEMPERATURE ROOMS
depths range from 4 to 8 ft

Constant temperature rooms for operation above and below room temperatures are available in range from 40 to 140° F and sizes from 4 to 8 ft deep. Built-in automatic refrigeration system with special exhaust eliminates need for air ducts, providing maximum working space. Shipped knocked-down for easy assembly, rooms can also be supplied with explosionproof fittings for hazardous locations. Made by **Labline, Inc.**, 219 N. Desplaines St., Chicago 6, Ill.

▲ For more details circle **NED-808 D5** on enclosed inquiry slip ▲

VIBRATING FEEDER-CONVEYOR
flow rate variable from 1 to 60 fpm



Solid 3-in. high blocks of Neoprene synthetic rubber are the springs used in the Resilient-Flow vibrating feeder - conveyor. Unit is compact, standard models having an overall height of only 8½ in. For special applications, conveyors can be supplied with an overall height as low as 4 in. Stroke is ⅛-in. and rate of feeding or conveying can be varied from 1 to 60 fpm, with maximum capacity as a conveyor being about 20 tons per hour. Quiet operating unit is available with pans 6 to 24 in. wide and up to 30 ft long, with drive from ¼ to 5 hp. Pans are normally steel, but can be specified in other metals. Units can be equipped with dust covers, dividers, intermediate discharge sections, screen decks and other processing features. Made by **Carrier Conveyor Corp.**, 2172 Frankfort Ave., Louisville, Ky.

▲ For more details circle **NED-809 D5** on enclosed inquiry slip ▲

SOLENOID VALVE
packless unit for low pressures

Air, various gases, water, gasoline, light fuel oil and other fluids up to 180° F can be controlled by the model 8030A direct-lift solenoid operated valve. Packless unit is designed for low pressure application up to 7 psi and is available in ⅜ and ½-in. pipe sizes. Only moving element is a stainless steel core and composition disk, housed in a forged brass body. Applications include gas pilot control on power boilers, air and gas control on gas-fired ovens and furnaces, automatic dispensing and vacuum holding. Normally closed valve requires 10 w to operate. Explosionproof and watertight solenoid enclosures are available. Made by **Automatic Switch Co.**, 379-D Lakeside Ave., Orange, N. J.

▲ For more details circle **NED-810 D5** on enclosed inquiry slip ▲

A JOMAC for every hand

Whatever your plant operation, there's a Jomac® Work Glove to give your workers the hand protection they deserve. Jomacs cost little, wear like iron, can be cleaned repeatedly.

Style No. 666 Send for trial order of 1 doz. No. 666 at gross lot price. Write for new Jomac catalog. Jomac Inc., Dept. G, Phila. 38, Pa.

JOMAC

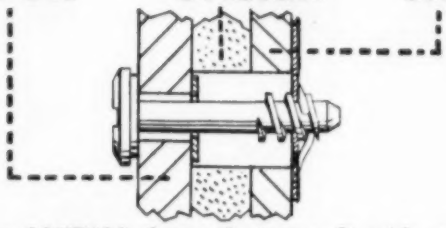
Industrial Work Gloves

Outwear ordinary work gloves by 900%

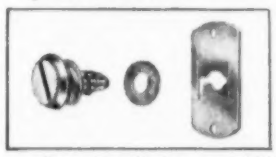
Plants in Philadelphia, Pa. and Warsaw, Ind.
In Canada, Safety Supply Company, Toronto.

▲ For more details circle **NED-811 D5** on enclosed inquiry slip ▲

USE ONE SIZE COWL FASTENER for various thicknesses of DOOR GASKET JAM



Because SOUTHCO Screw Fasteners fit wide range of tolerances, you need only one grip size for many production runs.



Benefits—
SIMPLIFY STOCK REQUIREMENTS
END MISALIGNMENT TROUBLES
SPEED ASSEMBLY

Easy installation—no skilled labor, no special tools needed.

Write for details today. Southco Division, South Chester Corporation, 243 Industrial Highway, Lester, Pa.

SOUTHCO FASTENERS

©1955

Whenever two or more parts are fastened together.

▲ For more details circle **NED-812 D5** on enclosed inquiry slip ▲

NESTIER the pre-engineered materials handling container for use throughout the plant

Eliminate costly rehandling of small and medium size parts . . . streamline your parts handling system . . . with NesTiers. These specially-designed and standardized boxes and baskets can be used from receiving through production to stores and shipping.

See for yourself how NesTier equipment can solve small parts handling problems of all types.

Write Today for Your Free Copy of New Catalog DN-1000 for the NesTier Story.

NESTIER® *. . . First in small parts handling*

C-202-DN

The Chas. Wm. Doepke Mfg., Co., Inc.

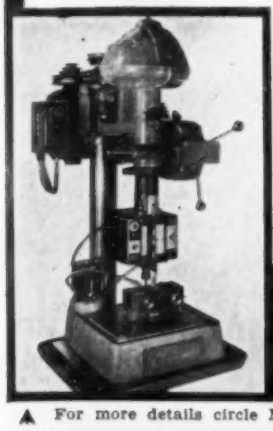
8884 BLUE ASH ROAD • ROSSMOYNE, OHIO

▲ For more details circle **NED-813 D5** on enclosed inquiry slip ▲

Commander LEAD-MATIC Tapper

Automatic Tapper with Lead Screw
FOR HIGH PRODUCTION PRECISION TAPPING

- Precision Ground Lead Screws Assure Finest Threads
- Electrically Controlled Cycle or Jog Tapping Action
- Hand, Foot or Fixture Switch Control
- Easily Adapted to Any Drill Press
- Range #0 to 3/4"



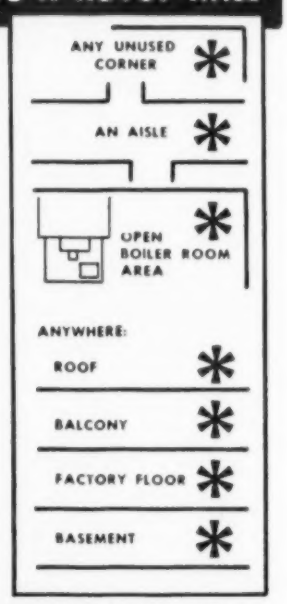
Built for high production tapping . . . precision or otherwise, the Commander Lead-Matic Tapper makes any drill press a precision tapping unit, even with inexperienced operators. Electric control of Cycle or Jog tapping action provides versatility to handle any job . . . automatic tap reversal eliminates drill press motor reversing and speeds tapping. Compact, ruggedly built, easy to operate, the Commander Lead-Matic Tapper will cut your tapping costs and reduce rejects to a minimum.

Write for illustrated circular and name of nearest Distributor
Commander MFG. CO.
4220 W. KINZIE ST. • CHICAGO
PRODUCT OF COMMANDER . . . BUILDER OF PRODUCTION TOOLS

▲ For more details circle NED-814 D5 on enclosed inquiry slip ▲

ADD 160 BOILER HORSEPOWER OF ADDITIONAL STEAM
in spare space you'll never miss

Just moving a desk makes room for a Vapor Modulatic steam generator. Or folding up the watchman's cot. Or any aisle will do. Shipped completely assembled. Needs no special foundation, expensive stack, or separate enclosure. Operation is safe, automatic. Over 10,000 in use—proved on Diesel streamliners since 1932. Seven sizes—18 to 160 hp.



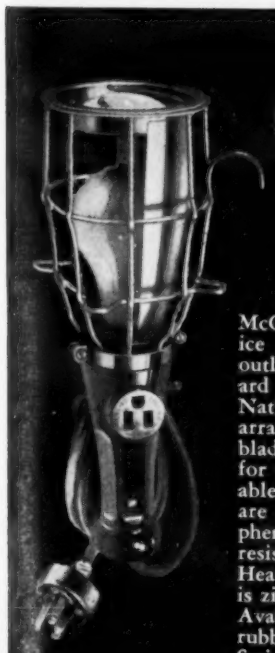
There's Nothing Else Anywhere Like It

VAPOR MODULATIC VERTICAL STEAM GENERATOR

Send for new Bulletin 586

VAPOR HEATING CORPORATION
80 E. Jackson Blvd., Chicago 4, Ill.
In Canada: Vapor Car Heating Co. of Canada, Ltd., 65 Dalhousie St., Montreal 3

▲ For more details circle NED-815 D5 on enclosed inquiry slip ▲



the grounded portable lighting
for modern plants

McGill 5000 series grounded service lights feature the convenience outlet and plug adopted as standard by Underwriters' and the National Electrical Code. Blade arrangement includes parallel blades and U shaped third blade for ground. This heavy duty portable and any attached power tools are completely grounded. Molded phenolic handle is heat and impact resistant and positively insulated. Heavy wide cage featuring end lens is zinc plated with chromate finish. Available with or without black rubber 16-3-SJ cord and Levolier Switch.

McGILL 5025-SLRG

Send for McGILL Catalog No. 49-A

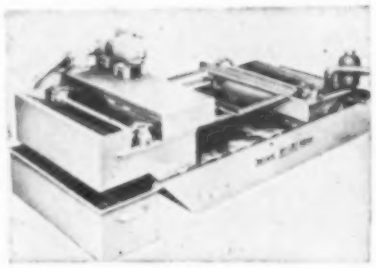
50th McGILL Anniversary

YOU CAN DEPEND ON McGILL QUALITY

McGILL MANUFACTURING CO., INC. 151 N. Campbell St. Valparaiso, Indiana

▲ For more details circle NED-816 D5 on enclosed inquiry slip ▲

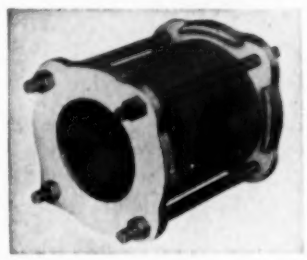
SELF-CLEANING INDUSTRIAL FILTERS remove fine and coarse particles



Fine as well as coarse particles are removed from liquids through permanent filter medium in this Delpark Up-Flow industrial filter. Gravity removes heavier solids before filtration of liquid through horizontal bar-type screen. Only fine particles held in suspension reach the screen. Chain driven flights operating on time lapse sequence pass under filter and remove deposits from underside of screen and area beneath the screen. Device cleans flights. Filtered swarf drops into tote box for disposal. All sizes, flows and capacities are available. Made by **Industrial Filtration Co.**, Dept. U-203, Lebanon, Ind.

▲ For more details circle NED-817 D5 on enclosed inquiry slip ▲

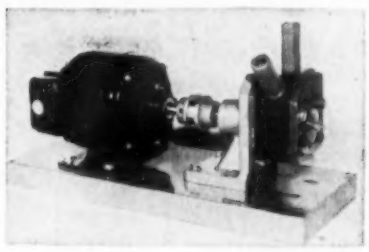
PIPE ADAPTOR COUPLING easily installed and dismantled



Corrosion resistant Little Giant pipe line adaptor coupling will join cement asbestos (all classes in the same size), cement asbestos to steel, steel to steel and plastic to steel pipe. It is designed so that one standard size fits a variety of pipe classes and materials. Bolt type coupling has cement asbestos body and iron flanges. Seal is accomplished by pressure against oil resistant synthetic rubber gaskets. Easily installed and dismantled, it is available in straight sizes of 3 to 12 in. and in combination sizes. Made by **Johnson-Fagg Engineering Co.**, P. O. Box 7157, Brookside Station, Tulsa, Okla.

▲ For more details circle NED-818 D5 on enclosed inquiry slip ▲

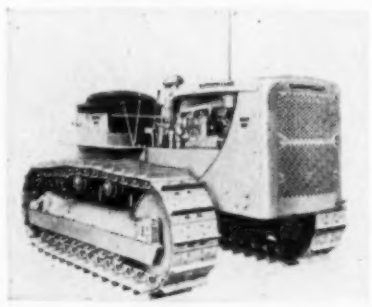
SELF-PRIMING PUMPS for chemicals handle up to 5 gpm



Bearings permanently protected from fume or chemical attack, no shaft seal or stuffing box and self-priming operation are features of the XB series of rotary type pumps. Capacities from fractional to 5 gpm, with 0 to 50 psi discharge pressures, are available. Both shaft bearings are housed in a cast iron pedestal. Cantilever type mounting simplifies pump disassembly and liner replacement. Fluid being pumped contacts only the outer surface of the liner and inner surface of the body block. These parts are available in various plastics, natural or synthetic rubbers or stainless steel. Made by **Vanton Pump & Equipment Corp.**, Dept. NED, 201 Sweetland Ave., Hillside, N. J.

▲ For more details circle NED-819 D5 on enclosed inquiry slip ▲

TRACK-TYPE TRACTOR drawbar pull is 28,700 lb



Horsepower increase from 108 to 128 and engine speed increase from 1000 to 1200 rpm are improvements introduced in the D7 track-type tractor. Maximum drawbar pull is 28,700 lb, about 3500 lb more than the previous model. An engine balancer reduces vibration and permits the four-cylinder, four-stroke cycle diesel engine to operate smoothly at the increased speed. Other features are redesigned engine block; new fuel injection system, starting engine and radiator; larger fuel tank; and improved fuel filter system, oil filter base adapter and air cleaner. Tractor has five speeds forward and four in reverse. Made by **Caterpillar Tractor Co.**, Equipment St., Peoria 8, Ill.

▲ For more details circle NED-820 D5 on enclosed inquiry slip ▲

REVOLVATOR GO-GETTER Lift Efficiency

Door-To-Door Warehouse Handling Efficiency

For the efficient flow of goods within and without a plant—from production to storage—to shipping—there is no lift truck on the market today that surpasses the Revolvator Go-Getter line.

Illustrated above is the high lift model Go-Getter—a favorite of the food producers—accepted throughout all industry. In 2000-3000 lb. capacities—remarkably adept in narrow aisle work, the Revolvator Go-Getter high lift truck permits great economies in warehousing.

Write for the full facts today.

REVOLVATOR CO.
8732 Tonnele Ave. North Bergen, N. J.

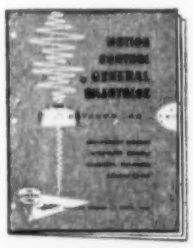
▲ For more details circle NED-821 D5 on enclosed inquiry slip ▲

FREE
Design Data on Vibration Control!

There's a wealth of practical help for designers in this General Tire catalog on Silentbloc vibration mounts. It features a selection method to cover vibration control on equipment ranging from tiny business machines to giant punch presses. Why not look into it for your own vibration problem?

Write to The General Tire & Rubber Company, Industrial Products Division, Dept. A-2, Wabash, Indiana. Ask for catalog 4240.

PERFORMANCE CURVES!
SELECTION CHARTS!
CHARACTERISTIC TABLES!



"From Plans to Products in Plastics and Rubber"

THE GENERAL TIRE Industrial Products Division WABASH INDIANA

These are General Tire Industrial Products now serving industry

Silentbloc vibration and shock mountings • Silentbloc bushings • Silentbloc bearings • Oil & hydraulic seals • Bonded to metal rubber parts • Hydraulic brake parts • Metal stampings • Extruded & molded rubber • Extruded plastic • Polyester glass laminates • Sponge rubber • Glass run channel • Vibrex® fastners

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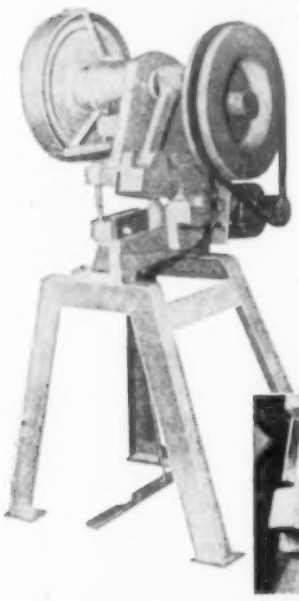
Bateman Angle & Flat Iron Shear

IDEAL FOR THE USERS OF SMALL ANGLES OR FLATS



- No grinding necessary after cut.
- Cut angles up to 2"x2"x3/16" and flats up to ¼"x4".
- Flywheel with gear drive for power with a small motor.
- A one stroke cycle clutch operated by either hand or foot.
- With clutch open, will make 44 strokes per minute.
- Made of high grade cast iron, hardened clutch and clutch pin, shear steel blades.
- Blades can easily be replaced by taking out several screws.
- From floor to top of machine—56" with stand. Floor to shear blade—36". Floor space required —24"x27".
- THIS MACHINE GUARANTEED FOR WORKMANSHIP AND DURABILITY.
- Price of shear, without stand or foot pedal—$350.00. With motor and switch—$450.00. With stand and foot pedal—$375.00.

¾ HP. motor required for power. We furnish 2-groove motor pulley and 2-belts when ordered without motor.

Shipping weight approx. 485-lbs., without stand, 560-lbs. with stand.

BATEMAN FOUNDRY & MACHINE CO.
MINERAL WELLS, TEXAS

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Now—Lock Your Feed Rates to Protect Machines . . . Reduce Costs with the CROSS Flow Control Lock!

Only authorized personnel carry a key for the Cross Flow Control Lock! They set machine feed rate, then lock it.

Easy to install. Just remove valve nameplate and adjusting lever, re-install over lock mounting plate.

Available for Vickers ¼" flow control valves and remote control panels.

For full details, write Dept. A-34.

- Eliminates Tampering
- Stops Costly Shutdowns
- Prevents Tool Abuse and Breakage
- Protects Machines Against Overloads
- Reduces Maintenance Costs

Established 1898
THE CROSS CO.
DETROIT 7, MICHIGAN

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PORTABLE DRIVE CUTS THREADING COSTS!

SEND FOR THIS FREE BOOKLET!

It contains detailed information on advantages of the new No. 142 Oster "Featherweight Champ"; shows construction features, specifications, and time-study comparison of this labor-saving, portable pipe threader. Send for your copy today!

THE OSTER MANUFACTURING CO.
Main Office and Factory:
2066 E. 61st St., Cleveland 3, Ohio
New York Factory Branch Sales and Service, 25-36 Jackson Ave., Long Island City 1, N. Y.

BUILDERS OF COST-REDUCING THREADING EQUIPMENT SINCE 1893

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XEROGRAPHIC DUPLICATOR reduces engineering drawings

Originals of engineering drawings up to 24 x 36 in. are copied by reduction onto the 12 x 18-in. XeroX sensitized plate of the model 1218 XeroX copying equipment. Transfer is then made to paper masters by Xerography, a dry electrical process requiring no intermediate negative, for runoff of multiple copies on an offset duplicator. Drawings of 12 x 18 in. can be copied size-to-size, while several small drawings can be copied at the same size or enlarged individually to 12 x 18 in. Up to 100 copies can be made in about 5 minutes. Copying equipment uses precut paper and consists of copying camera, charge unit, developing and cleaning trays, transfer unit and fuser for making the image on the paper master permanent. Developed by **Haloid Co.**, 555 Haloid St., Rochester 3, N. Y.

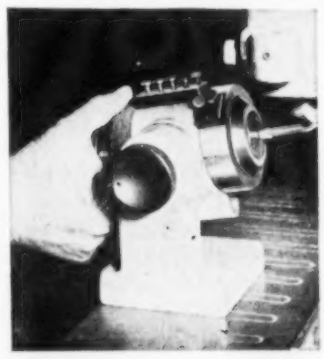
▲ For more details circle **NED-826 D5** on enclosed inquiry slip ▲

TENSION BOLT made of light, strong titanium

Weighing only 57 per cent as much as its steel counterpart, Hi-Ti titanium tension bolt can take a maximum dynamic load exceeding twice that of steel bolts. Titanium alloy of 4 per cent aluminum and 4 per cent manganese stands up under repeated fatigue stresses. Under the 77,000-psi specific testing load for military specifications, Hi-Ti bolts lasted for an average of more than 100,000 cycles before failure. Initial production is Military Standard 2004 series bolts. Made by **Standard Pressed Steel Co.**, P. O. Box 581, Jenkintown, Pa.

▲ For more details circle **NED-827 D5** on enclosed inquiry slip ▲

TAP SHARPENER use on any magnetic chuck grinder



Right or left-hand taps of two, three or four flutes can be resharpened in about 3 minutes with this Rocket tap sharpener on any grinder equipped with a magnetic chuck. The ½-in. collet will accommodate any standard 5-C collet of ⅛ to 1-in. capacity. First sleeve liner is off-center to cut radial clearance on tap, and second sleeve is on dead center for indexing purposes. Made by **Rockford Die & Tool Works, Inc.**, Dept. NED, 1816 Seventeenth Ave., Rockford, Ill.

▲ For more details circle **NED-828 D5** on enclosed inquiry slip ▲

MICROSCOPE ILLUMINATORS simplify microscope setup operations

External knob controls on three available microscope illuminators facilitate obtaining correct light adjustment. Two of the illuminators are color-corrected for precision photomicroscopy. Lamps are easily replaced and are automatically centered when installed. The PR-27 research model with numerous lighting adjustments features a parafocal which eliminates refocusing of light source when changing microscope objectives. High intensity model PG-26 focuses from 6 in. to infinity by rack and pinion movement which shifts lamp socket. General purpose model PL-25 uses 60-w daylight, inside frosted household lamp which requires no focusing. Made by **Bausch & Lomb Optical Co.**, 727 St. Paul St., Rochester 2, N. Y.

▲ For more details circle **NED-829 D5** on enclosed inquiry slip ▲

Order USG® BRUSHES because...

- Years of practical experience in all types of applications assure you of the proper USG brush for your equipment.
- Controlled manufacturing uniformity gives you the same brush every time you order.
- There is a USG representative near your plant. See him or write for your copy of the USG Brush Catalog B49 today.

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION
SAGINAW, MICHIGAN
198-A

▲ For more details circle **NED-830 D5** on enclosed inquiry slip ▲

THE NEW FLORLINE UPRIGHT Marking Machine

Actually 2 FINE MACHINES IN ONE!

$117.50
F.O.B. Detroit

Has Operating Advantages of Heavier Power Machines Plus Lightness of Weight, Greater Maneuverability and Low Cost of 2-Wheel Machines

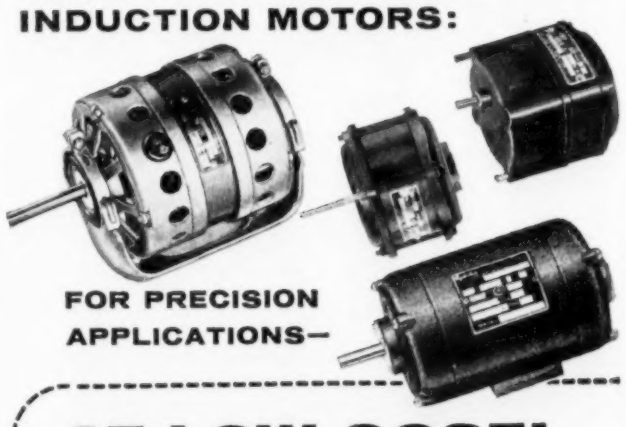
CHECK THESE IMPORTANT NEW BONUS BENEFITS:

- Adjusts to operator's ideal height
- Carries the full weight-load
- Upright when you run it
- Upright when you park it
- Makes straight lines faster with much less effort
- Stays "on track" with minimum operator direction
- Makes straight, curved and skip lines with equal ease
- Portable—easy to transport and clean
- Converts to 2-wheel machine for narrow, crowded areas, in a minute

H. C. SWEET COMPANY
12345-C Telegraph Road Detroit 39, Michigan

▲ For more details circle **NED-831 D5** on enclosed inquiry slip ▲

HOWARD FRACTIONAL H.P. INDUCTION MOTORS:



FOR PRECISION APPLICATIONS—

AT LOW COST!

SYNCHRONOUS—NON-SYNCHRONOUS TORQUE—HYSTERESIS AND SERVO TYPES—1/1400 to 1/4 h.p.

These four motors are just a few from HOWARD'S large line . . . representing the finest in motor performance for applications such as instruments, timing devices, facsimile equipment, tape recorders, blowers, TV cameras, light switching, radar, recordiographs and hundreds of others. If you have a quantity application, write HOWARD today!

HOWARD

DEPT. NE-4 • HOWARD INDUSTRIES, INC. • RACINE, WIS.
DIVISIONS:
ELECTRIC MOTOR CORP. • CYCLOHM MOTOR CORP. • RACINE ELECTRIC PRODUCTS

▲ For more details circle **NED-832 D5** on enclosed inquiry slip ▲

4 EASY STEPS TO BETTER PRODUCTION HEAT

the experienced Chromalox Electric Heating Specialist serving your area. He's as near as your phone.

your heating plans and problems. You'll be given "case histories" of successful applications similar to your own.

the details of your application with the Chromalox specialist. Tell him what you want in the way of results.

You'll be more than pleased with the time, money and material savings you'll get with Chromalox Electric Heat.

Send for your copy of F1550—"101 Ways to apply Electric Heat". . . and for address of Chromalox Sales-Engineer serving your area.

EDWIN L. WIEGAND COMPANY
7509 Thomas Boulevard, Pittsburgh 8, Pa.

CHROMALOX See other ad on pg. 4 A-4444

ELECTRIC HEAT FOR MODERN INDUSTRY

For more details circle NED-833 D5 on enclosed inquiry slip

This magnifier is a favorite in toolrooms

Write today for tell-all handbook and catalog, "INDUSTRIAL MAGNIFIERS, HOW TO CHOOSE AND USE THEM"

Combines extremely wide field (2¾") with moderately high magnification (3.5X). Double lenses for reducing aberration. Easy to hold, tough plastic mount. Only $3.60 at leading industrial suppliers. See complete line $1 to $25. Bausch & Lomb Optical Co., 51640 Bausch St., Rochester 2, N. Y.

BAUSCH & LOMB—
Industrial Magnifiers

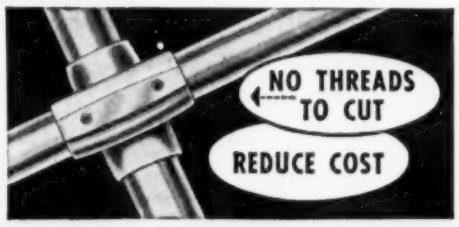
For more details circle NED-834 D5 on enclosed inquiry slip

NOW! BUILD YOUR OWN Pallet Racks, Rails and Shelving . . . with

Nu-Rail SLIP-ON FITTINGS

AN ENTIRELY NEW METHOD OF FITTING PIPE

NO WELDING! USE ALL PARTS OVER AND OVER AGAIN!



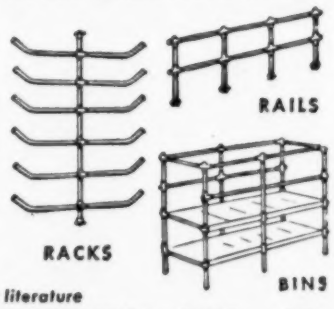
USE ANY I.P.S. PIPE OR TUBING . . .
NO PIPE CUTTING . . . NO WELDING

Build them when and where you need them

SAVE MONEY, too!

Just a few examples of Nu-Rail versatility! If it's made of pipe . . . you can make it BETTER, FASTER AND FOR LESS . . . with Nu-Rail!

Distributed coast to coast.



Write for literature

THE HOLLAENDER MFG. CO.
3840 Spring Grove Ave., CINCINNATI 23, OHIO

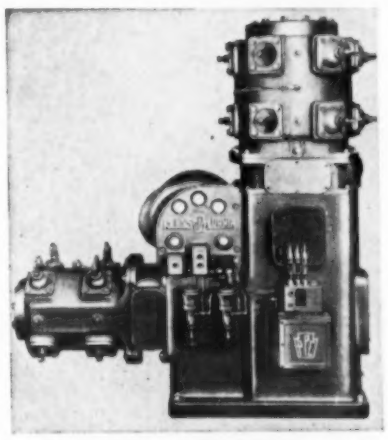
For more details circle NED-835 D5 on enclosed inquiry slip

POWDER POWERED TOOL weighs 6 lb and is easy to use

Packing a .25-caliber drive, this 330 powder powered tool is also adaptable to .38 caliber. It weighs only 6 lb and can be used to drive 56 different kinds and sizes of drive pins. It is applicable for electrical construction, plumbing, heating and ventilating work, plastering, wood and steel erection and general construction work. Improved design features automatic cartridge extractor, molded rubber pistol grip and fore grip, and polished chrome finish. It can be disassembled into three parts in the field for complete cleaning. Made by **Powder Power Tool Corp.,** Dept. 5, 7527 S. W. Macadam Ave., Portland 1, Oreg.

For more details circle NED-836 D5 on enclosed inquiry slip

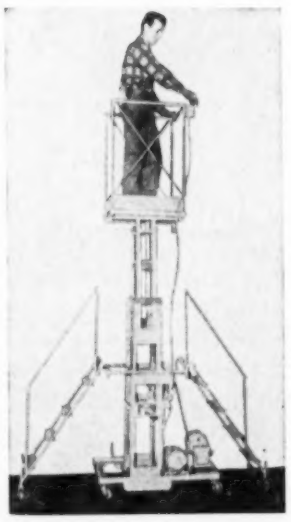
DUPLEX COMPRESSOR in 797 and 974-cfm capacities



Compact, portable and easy to maintain, class HAE two-stage water-cooled angle type duplex compressor is offered with 797 and 974 cfm piston displacements, rated 125 and 150 hp. Intercooler tubes are replaceable. Machines have Air-Cushion valves, full pressure lubrication and spherical roller type main bearings. Made by **Pennsylvania Pump & Compressor Co.,** 14 Bushkill Dr., Easton, Pa.

For more details circle NED-837 D5 on enclosed inquiry slip

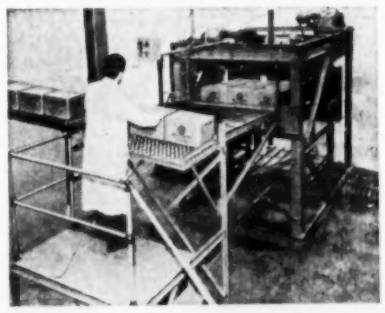
STOCK ROOM LIFT for reaching hard-to-get-at stock



High, hard-to-get-at spaces in stock rooms and warehouses can be reached with the help of this stock room servicer. Electrically operated on house current or battery, telescoping-type lift can be used to raise or lower heavy materials as well as stock room personnel. Unit is easily rolled and maneuvered in aisles, hallways and other tight spaces and collapses to 42 in. Ladders are furnished on either one or both sides, as specified. Made by **Atlas Industrial Corp.,** 845-ND 39th St., Brooklyn 32, N. Y.

For more details circle NED-838 D5 on enclosed inquiry slip

PALLETIZING MACHINE usable in small or large plants

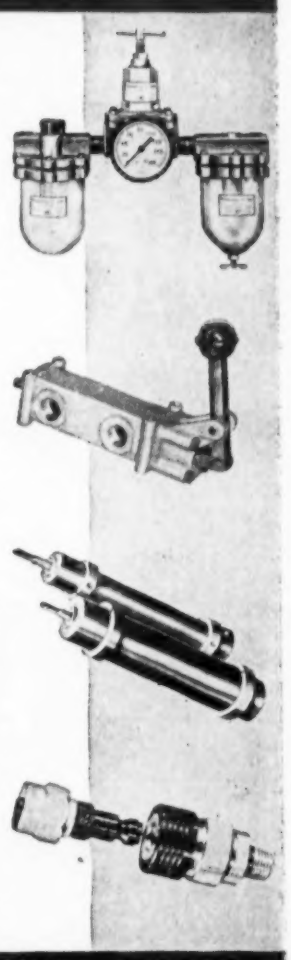


With this Palletizer one man can palletize up to three times as many packages or cartons as he can by manual methods alone. Fast, safe operation results in minimum damage to packages and their contents. Operator sets up desired pattern one tier at a time without lifting or stooping, as packages "float" on arranger table. Machine automatically loads each tier onto the pallet. When preset number of tiers is reached, loaded pallet is discharged and new empty pallet rolls into the loading position. Machines handles pallet sizes from 32 x 32 to 48 x 48 in. Made by **J. W. Greer Co.,** Main & Eames St., Wilmington, Mass.

For more details circle NED-839 D5 on enclosed inquiry slip

For more details circle NED-840 D5 on enclosed inquiry slip

PNEUMATIC NEWS from Westinghouse



NEW LUBRICATION CONTROL . . . This new Westinghouse Type R-1 Lubricating Control Unit gives your air system complete protection. It accurately regulates air pressure—prevents air waste and excessive pressure. It regulates the injection of oil in proportion to the amount of air . . . *meters* the flow . . . *atomizes* the oil. It *removes* water and solid particles from the air stream. One size handles *all* requirements from 4 to 85 cfm at pressures up to 125 psi.

NEW FLOW VALVE . . . This new Westinghouse Type "D" Pilotair Valve controls the flow of air, oil, or water at pressures up to 250 psi. It comes as a two-way, three-way, or four-way valve with lever, treadle, pedal, button, cam, solenoid, or pneumatic operation. New seal and construction assure long life and low maintenance.

CYLINDERS . . . Westinghouse makes them in diameters from 1½" to 10", with stroke lengths up to 42". Single or double acting, with or without adjustable cushioning, for foot, flange, or pivot mounting.

PLUG-IN COUPLERS . . . Westinghouse makes these full-flow, heavy-duty, quick couplers in both the Push Type, which can be connected and disconnected with one hand, and the Sleeve Type. Two series: Interchange, for use with other makes of couplers, and Standard.

FOR QUICK SERVICE LOCALLY

. . . and complete facts about the Westinghouse line of quality pneumatic controls, consult the Westinghouse Air Brake Distributor listed in the classified phone directory under "Cylinders: Air."

Westinghouse Air Brake COMPANY
Industrial Products Division
WILMERDING PENNSYLVANIA

For more details circle NED-841 D5 on enclosed inquiry slip

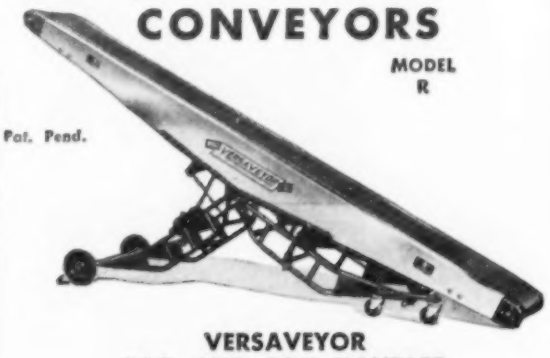
HANDLE

More FOR *Less!*

WITH BELT PORTABLE CONVEYORS

MODEL R

Pat. Pend.



VERSAVEYOR BAG AND BOX HANDLER

Manufacturers, warehousemen and retailers find this handy unit the quick, easy way to speed up materials handling and slow down costs. Lengths to 19 ft. with or without undercarriage, up to 25 ft. for floor-to-floor applications.

BELT THE BELT CORPORATION

2104 Stahl Rd., Orient, Ohio

For more details circle NED-842 D5 on enclosed inquiry slip

Standardized

CORD SETS

Ready for Your

APPLICATION

Cords manufactures a complete line of U.L. approved cord sets for any application. Through their extensive standardization, Cords Ltd. can reduce both your engineering and inventory costs . . . and at the same time furnish quality cord sets at a competitive price. Sales offices in principal cities.

Write Cords today for free catalog outlining complete specifications of standard cord sets . . . or for Bulletin C442 on new 3 conductor U.L. approved cord sets.

CORD SETS

CORDS LIMITED

DIVISION ESSEX WIRE CORPORATION

121 DODGE STREET, DEKALB, ILLINOIS

For more details circle NED-843 D5 on enclosed inquiry slip

PEECO.. the BIG NAME in SMALL PARTS FEEDING

THE REASON...

...ENGINEERED CAST BOWLS

PEECO approaches each small parts feeding problem from an engineering standpoint. Peeco cast hopper bowls are specially designed to meet specific needs.

"OPERATION AUTOMATION"

PEECO single and multi-track bowls are accurately machined to give you perfect timing, proper position and careful handling of small parts. If parts feeding is impairing your profits, put the problem up to Peeco. Write, or phone.

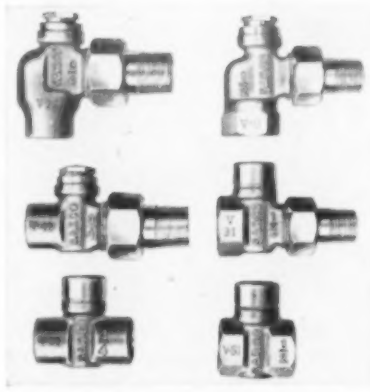
Peeco VIBRATORY PARTS FEEDERS

PERRY EQUIPMENT & ENGINEERING CO.

3125 BRANDES ST., ERIE, PA.

For more details circle NED-844 D5 on enclosed inquiry slip

BALANCING FITTINGS for hot water and radiant systems



Balancing fittings for hot water and radiant systems utilize a circle instead of butterfly restriction to assure equal flow with equal opening. The solid segment offers no obstruction to flow in fully open position, resulting in small pressure drop. Fittings are suitable for 200-psi water pressure and are also available with integral manual air vent. Made by **Sarcotherm Controls, Inc.,** 352 Fifth Ave., New York 1, N. Y.

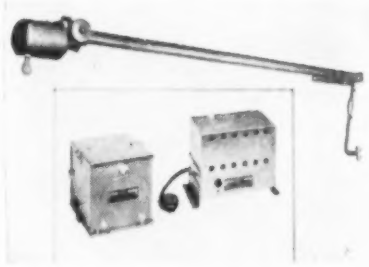
For more details circle NED-845 D5 on enclosed inquiry slip

ROTARY TABLET PRESS makes 1930 5/8-in. tablets/minute

Having a maximum capacity of 1930 tablets per minute up to 5/8-in. in diameter, No. 233 double rotary tabletting press is fully automatic. All adjustments are readily accessible. Totally-enclosed fan - cooled motor and totally-enclosed pressure-lubricated drive gear system are sealed against dust incidental to tabletting operations. Made by **Arthur Colton Co.,** 3400-A E. Lafayette Ave., Detroit 7, Mich.

For more details circle NED-846 D5 on enclosed inquiry slip

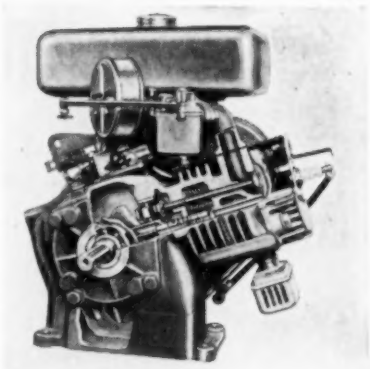
DOOR OPERATOR controlled from car or gate post



Originally designed for home owner use, the Auto - Magic electronic door operator has wide industrial possibilities as well. Unit will open, close and lock an overhead door and turn on or off a light from within operator's vehicle. Electronic remote-controlled model features small radio transmitter which mounts under hood of vehicle and goes into action with press of button on dash panel. Push-button or key lock-switch model is actuated by control mounted on gate post, light post, or installed along side of drive. Both models are easy to install. Made by **United States Motors Corp.,** Auto-Magic Div., 421 Nebraska St., Oshkosh, Wis.

For more details circle NED-847 D5 on enclosed inquiry slip

AIR-COOLED ENGINE features low silhouette



Model AU85 3-hp air-cooled gasoline engine features a low silhouette, its actual height being 13 1/8 in. The heavy duty engines incorporate shell molded intake manifold and ports with smooth interior, Carter center-bowl carburetor which permits engine operation at extreme tilt angles, large diameter intake valve and high cooling capacity. An optional automatic ignition cut-off stops the engine if lubricating oil level falls below the safe point. Models are also available for operation on kerosene. Also optional is the Contex ignition system in which breaker points and condenser are mounted outside the crankcase under an easily removable cap. Made by **Continental Motors Corp.,** 12802 Kercheval Ave., Detroit 14, Mich.

For more details circle NED-848 D5 on enclosed inquiry slip

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SHAKEPROOF T.M. REG. U.S. PAT. OFF. LOCK WASHERS

Only SHAKEPROOF Lock Washers give you the powerful, positive locking action of tapered-twisted teeth. They actually bite deeper as vibration increases! A complete line of standard types and sizes meets nearly every fastening need.

WRITE FOR FREE SAMPLE KIT TODAY

SHAKEPROOF

"Fastening Headquarters"®

DIVISION OF ILLINOIS TOOL WORKS

St. Charles Road, Elgin, Illinois

Offices in principal cities

For more details circle NED-849 D5 on enclosed inquiry slip

FLOATLESS LIQUID LEVEL CONTROLS ELECTRODE TYPE

Write for 32 Page Catalog

- Pump Controls
- Duplex Pump Alternators
- High and Low Level Cutoffs
- High and Low Level Alarms
- Multi-Level Signals
- Liquid Metering
- Special Controls and Panels

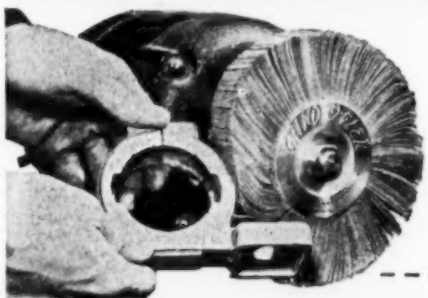
Listed by Underwriters Laboratories

CHARLES F. WARRICK CO.

1962 W. Eleven Mile Rd. Berkley, Mich.

Warrick FLOATLESS LIQUID LEVEL CONTROLS ELECTRODE TYPE

For more details circle NED-850 D5 on enclosed inquiry slip



For light grinding and polishing

GRIND-O-FLEX

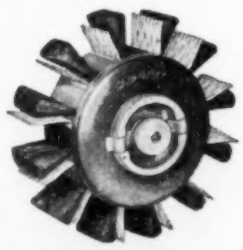
THE FLEXIBLE GRINDING WHEEL

This fast-cutting grinding wheel removes burrs, flash, tool marks from contoured parts without digging into the metal. Consists of hundreds of "leaves" of aluminum-oxide cloth sealed to a core. Attaches to your present power tools or any rotating spindle. No special equipment to buy. Wide range of grits. Safe and easy to use. Mount several wheels side by side for any required width. There's nothing like it.

For finishing complex contours

SAND-O-FLEX

BRUSH-BACKED ABRASIVE WHEELS

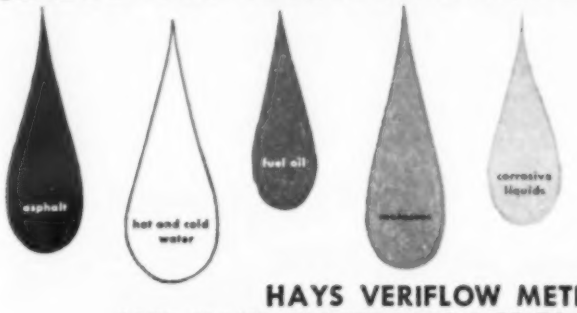


Use Sand-O-Flex for lighter and more intricate contour work on metals, plastics, wood, rubber, etc. Cannot gouge, "flat" or mar surfaces. Attaches to motor shaft or power tools. Available in four sizes from portable to heavy-duty production line models. Refill abrasive cartridges range from coarse to very fine for all types of finishing and polishing. Write for catalog and prices.

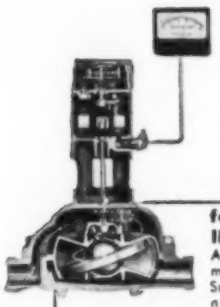
MERIT PRODUCTS, INC., 4023 Irving Place, Culver City, Calif.

For more details circle NED-851 D5 on enclosed inquiry slip

viscosities unlimited



HAYS VERIFLOW METER
AND HAYS ELECTRONIC VERITROL
indicate and control liquid flow



Now virtually all fluids can be precisely measured and controlled—*from a remote position.*

Hays VERIFLOW meter accurately measures, indicates, and totals the flow of corrosive and hard-to-meter liquids without using weigh tanks, orifice plates, or gage sticks. With the Hays VERITROL you simply set a knob at the rate of flow desired . . . then, the VERITROL controls the flow of liquid at that set-rate. *Send for Pub. No. 53-766-38.*

for corrosive liquids
Acetic Acid, Aluminum Potassium Sulphate, Ammonia, Calcium Compounds, Carbolic Acid, Formaldehyde, Fruit and Vegetable Juices, Hydrogen Peroxide, Phosphoric Acid, Potassium Hydroxide, Sodium Compounds, Sulphuric Acid (concentrated), Stearic Acid, and many others.

THE hays CORPORATION
Michigan City 15, Indiana

▲ For more details circle NED-852 D5 on enclosed inquiry slip ▲

for plastics molding at
LOWER COST

. . . try the
LEWIS "6"
INJECTION MOLDING MACHINE

FEATURING HYDRA-LOCK®, the exclusive new 200-ton clamping mechanism, Model "6" is winning acclaim for high volume production with minimum scrap. This versatile LEWIS machine plasticizes up to 60 pounds of polystyrene per hour . . . molds parts weighing more than 7 ounces at rate of 2½ shots per minute . . . accommodates dies formerly limited to larger, more costly machines. Its automatic molding cycle, high-speed injection system and powerful clamp assure faster production of large projected area parts with maximum safety . . . economy . . . profit.

For complete details, write for Bulletin 102.

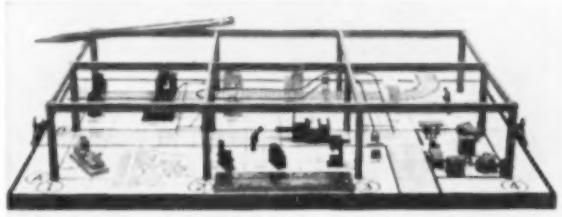
LEWIS

THE LEWIS WELDING & ENGINEERING CORPORATION
14 Interstate Street • Bedford, Ohio
6123-LW

▲ For more details circle NED-853 D5 on enclosed inquiry slip ▲

LAYOUT MODELS
available in various scales

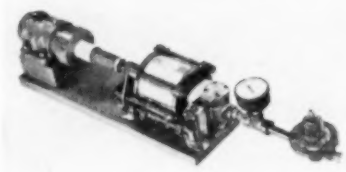
Simplified models of machine tools, auxiliaries and other equipment are being made in scales of ⅛, 3/16, ¼ and ½-in. to the foot with a minimum of detail,



yet showing all essential details. Cost of layouts ranges from 2 to 4 cents per square foot, depending upon scale, size of plant, congestion and ratio of production to nonproduction equipment. Service offered by company includes coming into the plant and sketching equipment and building the model. Resulting models can be reproduced on blueprints. Available from **Industrial Models, Inc.,** Dept. E, 2311 Sconset Rd., Wilmington 3, Del.

▲ For more details circle NED-854 D5 on enclosed inquiry slip ▲

AIR-OPERATED PUMP
for metering small volume flows



Double - acting air cylinder provides the power for model UP pump and provides quick starts and positive stops at high and low speeds. It is designed for use in metering and proportioning of small volume flows. Volume is controlled by stroke length adjustment and/or by controlling air supply pressure or speed of four-way valve actuation. Pump is available in various materials, including stainless steel, Hastelloy, Monel and plastic. Made by **Hills-McCanna Co.,** 2455 W. Nelson St., Chicago, Ill.

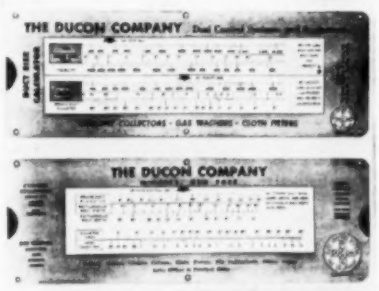
▲ For more details circle NED-855 D5 on enclosed inquiry slip ▲

OSCILLOGRAPH
2 to 30,000 cps range

Ability to select the horizontal center of expansion so that a selected detail of the signal can be expanded up to five times without losing the reference is a feature of the type 340 cathode-ray oscillograph. Laboratory type instrument has identical X and Y amplifiers extending from direct current to 100 kc and hard tube sweeps with beam gate ranging from 2 to 30,000 cps. On the Y axis, the signal can be expanded up to three times full scale and positioned over the full range without distortion. Internal regulating transformer provides nearly complete freedom from line voltage change. Made by **Allen B. Du Mont Laboratories, Inc.,** 760 Bloomfield Ave., Clifton, N. J.

▲ For more details circle NED-856 D5 on enclosed inquiry slip ▲

DUCT SIZE CALCULATOR
helps to determine requirements



Accurate duct requirements for dust collection, gas evacuation, product reclaiming and other similar problems can be quickly determined with this duct size calculator. Front of the 3½ x 9½-in. device has two sets of sliding scales: conversion of gas volume flow and velocity to duct diameter or converse; and friction loss per 100 ft for a given duct size and gas velocity. Scales on back convert round duct diameter into equivalent rectangular ducts of all proportions for tight spots and convert diameter in inches into areas in square feet. Available free of charge from **Ducon Co.,** 137 E. Second St., Mineola, L. I., N. Y.

▲ For more details circle NED-857 D5 on enclosed inquiry slip ▲

SEAL IT!
against dirt, moisture, loss of fluids

PROTECT IT!
against thread damage
with
SSW Plastic Plugs and Caps

Safeguard your products before shipment with these low-cost plastic closures. They're easy to use and provide the safe and sure protection that pays off in increased customer satisfaction and in reduced repair and servicing work. As the original and leading manufacturer of protective plastic shipping caps and plugs, S.S.White is in a position to offer a full selection of standard sizes for any requirements.

Write for literature and samples. Address Dept. 7P

THE S.S.White DENTAL MFG. CO. PLASTICS DIVISION
10 East 40th Street
New York 16, N.Y.
Western District Office • Times Building, Long Beach, California

▲ For more details circle NED-858 D5 on enclosed inquiry slip ▲

feature for feature...
THIS NEW SQUARE D VOLTAGE TESTER
Tops them ALL!

for further details, write Square D Company, 6060 Rivard Street, Detroit 11, Michigan
ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

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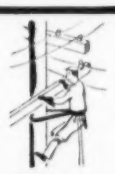
For SAFETY  BELT
or MODERN CHAIR
use BUFFALO WEBBING
everywhere!

Need a special webbing for your product? Just name it. It's probably one of the hundreds of STANDARD sizes, widths, weights, solid colors or patterns that we can supply at the RIGHT PRICE from America's oldest webbing manufacturer.

WRITE for samples and prices

★ STRONG!
★ PLIABLE!
★ ADAPTABLE!

BUFFALO WEAVING and BELTING CO., INC.
209 CHANDLER ST. BUFFALO, N. Y.

▲ For more details circle NED-860 D5 on enclosed inquiry slip ▲

Does jobs no drill can do... Does many jobs *better!*

Clark "HOLE-MAKER"

Produces round, true holes in CASTINGS, FORGINGS, BOILER PLATE, THIN SHEET STOCK, PIPE, TUBING, ETC.; Drills CROWNED, CYLINDRICAL, FLAT OR WEBBED SURFACES!

No triangular shaped holes, no grabbing on break-throughs, no "walking" on starts with the Clark "HOLE-MAKER"! Produces full-gauge holes from start to finish. Removable pilot guides HOLE-MAKER straight and true even on intermittent cuts. Will also use pilot drill.

Ideal production tool on TURRET LATHES, CHUCKING MACHINES, RADIAL DRILLS, DRILL PRESSES, PORTABLE ELECTRIC and PNEUMATIC DRILLS. Excellent for rough boring, finishing and trepanning. Cuts all ferrous and non-ferrous metals and other materials. Saves money, replaces large drill inventory... Bores castings, forgings, etc. 3 to 10 times faster than single pointing!

5 ADJUSTABLE SIZES COVER I.D.'s from 1" to 6"
Specify straight shank or MT 2, 3, 4. Other tapers on order.

MODEL	CAPACITY
102	1"–2"
203	2"–3"
304	3"–4"
405	4"–5"
506	5"–6"

When ordering, specify material to be cut.

ROBERT H. CLARK COMPANY
9330 Santa Monica Blvd., Beverly Hills, Calif.

▲ For more details circle **NED-861 D5** on enclosed inquiry slip ▲

Morton FIXTURE CLAMPS AND DETAILS...

Typical application of Jack Lock being used to support section of casting during machining operation. This is one of the numerous applications of this positive, vibration proof, non-distorting Jack Lock.

MORTON MACHINE WORKS
2421 WOLCOTT STREET • DETROIT 20, MICHIGAN

▲ For more details circle **NED-862 D5** on enclosed inquiry slip ▲

There's no "...or equal" for EASY-FLO and SIL-FOS

Years of research went into our development of these original low-temperature silver brazing alloys and the manufacturing methods and controls used in their production. In composition, physical properties and unvarying uniformity they stand alone. That's why there's no "or equal" for EASY-FLO and SIL-FOS when it comes to fast, reliable, low-cost metal joining.

and there's no "...or equal" for these SERVICES

Backed by the greatest fund of technical knowledge and practical experience in silver brazing available today, there's no "or equal" for the following services we offer, without obligation to all present and prospective users of EASY-FLO and SIL-FOS alloys:

DEMONSTRATIONS • SAMPLE BRAZING • SURVEYS • RESEARCH DESIGN & PRODUCTION AID • OPERATOR TRAINING

WRITE TODAY for the list of Authorized Distributors and for BULLETIN 20 giving full details about the alloys and their use.

HANDY & HARMAN 82 Fulton St., New York 38, N. Y.
Distributors in Principal Cities. In Canada: Handy & Harman of Canada Ltd., Toronto

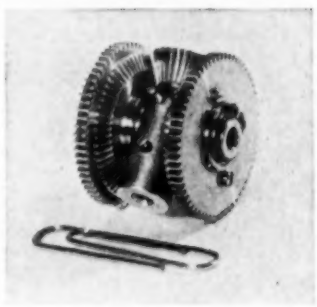
▲ For more details circle **NED-863 D5** on enclosed inquiry slip ▲

STEEL SHELVING rapidly installed without tools

All fastening of Klip-Bolt steel storage shelving is with simple clips, requiring no tools or special skills. Clips are easily removed for rearrangement or disassembly. Shelf flange corners are held tight against T-posts at point of support to prevent flanged corners from pulling away and sagging under load. Clips automatically accommodate variations in post thickness. Other clips are used for fastening back panels, shelf dividers and label holders. Variety of shelf sizes is available. Made by **Frick-Gallagher Mfg. Co.,** 112 S. Michigan Ave., Wellston, O.

▲ For more details circle **NED-864 D5** on enclosed inquiry slip ▲

DIFFERENTIAL GEAR UNIT for use in small, compact equipment

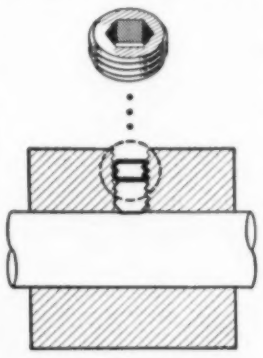


Hollow shaft type miniature differential gear unit is supplied completely assembled for easy mounting at any position on a shaft. It is usable in servo systems, missile navigational systems and related equipment. Models for either a 1/8 or 3/16-in. shaft have an overall length of 0.930-in. Backlash is less than 7 minutes (3-minute backlash can be specified) and break-away torque is less than 0.01-oz-in. Spur gears of either 48, 64, 96 or 120-pitch can be used on the ends. Of stainless steel construction, it has shielded type stainless steel bearings. Made by **Reeves Instrument Corp.,** Dept. NED, 215 E. 91st St., New York 28, N. Y.

▲ For more details circle **NED-865 D5** on enclosed inquiry slip ▲

HOLLOW LOCK SCREWS for holding socket set screws

Designed to act as internal "lock nuts" for set screws subjected to high speeds and vibration, Mac-it hollow lock screws hold securely. They are made of heat treated alloy steel and have an "all the way through" hex socket which permits adjustment or resetting the set screw without removal of the lock screw. When set firmly in place, the lock screw presses against the upper surface of the set screw. Lock screws are produced with fine or coarse threads in 12 standard diameters from No. 6 to 1 in. and in lengths according to diameter. Available from **Strong, Carlisle & Hammond Co.,** Mac-it Div., Dept. M-C, 1392 W. Third St., Cleveland 13, O.



SOCKET SET SCREW SECURED BY HOLLOW LOCK SCREW

▲ For more details circle **NED-866 D5** on enclosed inquiry slip ▲

PORTABLE HOIST 10-lb unit has 1½-ton capacity

Diversified lifting, pulling and lowering operations can be performed by the Little Mule portable hoist. All mechanical parts are engineered for more than double the rated capacity of 1½ tons. Operating handle will bend before any mechanical part is subjected to an excessive strain. Lever that controls direction of pull is easily reached and operated. Hoist has 13 ft of tinned or galvanized aircraft cable. Frame is high tensile strength aluminum alloy. Loads can be pulled from any angle when the built-in pulley block and single line are used. Made by **Little Mule Corp.,** Dept. 699, P. O. Box 1462, Ft. Lauderdale, Fla.

▲ For more details circle **NED-867 D5** on enclosed inquiry slip ▲

NO DOWNTIME in over a year using a PLATECOIL in a parkerizing tank

REPLACES PIPE COIL

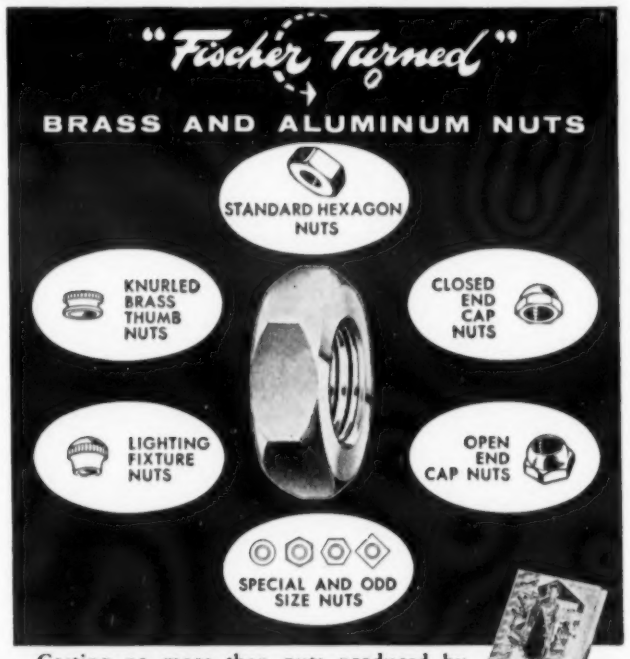
The only time this Platecoil was removed in over a year was to take its picture. The single 22" x 23" Platecoil has heated a 100-gallon Parkerizing tank, in daily use, *without downtime* at the Lycoming Spencer Division of Avco Corp. Built of Electro-Polished Stainless Steel, the Platecoil has required no cleaning or repairs. Platecoils will replace pipe coils at a savings in any heat transfer application.

Send for complete technical manual and descriptive Bulletin No. P57.

PLATECOIL Division **Tranter Mfg. inc.** LANSING 4, MICHIGAN

▲ For more details circle **NED-868 D5** on enclosed inquiry slip ▲

"Fischer Turned" BRASS AND ALUMINUM NUTS



Costing no more than nuts produced by other, less accurate methods, "Fischer Turned" *precision* brass and aluminum nuts make possible new economies in assembly operations. Each Fischer nut is burrless . . . tapped square with the face . . . cleaned and degreased . . . countersunk on both sides . . . tapped to Class 2 tolerances. Write today for complete catalog.

Fischer SPECIAL MFG. CO.
C-233-FS 461 Morgan St. • Cincinnati 6, Ohio

▲ For more details circle **NED-869 D5** on enclosed inquiry slip ▲

5000 psi —continuously

Denison Axial Piston Pump operates *continuously* at 5000 psi, delivers up to 35 gals. per minute. Constant or variable volume. Face, flange or foot mountings.

SEND FOR BULLETINS. Get all the facts on Denison Axial Piston Pumps for circuit pressures up to 5000 psi. Write to:

DENISON HydrOILics
PUMPS • MOTORS • CONTROLS • PRESSES

THE DENISON ENGINEERING COMPANY
1192 DUBLIN ROAD • COLUMBUS 16, OHIO

▲ For more details circle **NED-870 D5** on enclosed inquiry slip ▲

New FLOORMOBILE keeps plants cleaner, safer and cuts costs!

Floormobile suction cleans 20M sq. ft. of floor per hour.

FLOORMOBILE is a powerful, mobile floor cleaner that sucks up dust, dirt, string, paper, trash and other materials . . . some impossible to pick up with other methods. The Plantman FLOORMOBILE suction cleans up to 20,000 sq. ft. an hour. It doesn't stir up and chase dust around as brooms or ordinary sweepers do. But on the contrary, it *sucks up* the dust and keeps it out of the air. Less airborne dust means fewer germ-laden dust particles and less absenteeism; less cleaning of fixtures, motors, wires, work in process and finished stocks; and less explosion and fire hazards.

Reports from users show you can clean large floor areas faster, easier, better . . . *and control dust* . . . with the Plantman FLOORMOBILE. One company using 5 FLOORMOBILES reports direct labor savings in excess of $30,000 per year; another company has reduced man hours devoted to dust control by 72%; still another with 2 FLOORMOBILES cleans three floors in the time it formerly took three men to clean one floor.

Send today for brochure and complete information showing how Plantman FLOORMOBILE can keep your plant cleaner, safer and cut costs.

***Write* Handling Devices Co., Inc., 45 Pearl St., Brookline 46, Mass. —Advt.**

▲ For more details circle **NED-871 D5** on enclosed inquiry slip ▲

The Pines No. 600 End-Finishing Machine is designed for fast, accurate work. Women operators commonly debur up to 800—1" tube ends per hour. Exclusive operating features include single lever control which clamps and feeds work to rotating cutters in one pass, enabling operator to have one hand free for stock handling. Small and compact, the Pines machine is equipped with quick, interchangeable tool holders, chuck inserts, 8-speed sheave (760 to 3920 rpm), sturdy spindle, and grease-sealed precision bearings. The No. 600 unit illustrated, handles stock diameters up to 2". Maximum feed stroke is 1¼". Automatic air-operated units are also available for higher production work, and larger models for stock sizes up to 5".

Write FOR FREE BULLETIN

Write for facts on how these machines cut costs on a wide range of work.

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery 643 WALNUT • AURORA, ILLINOIS
PRODUCTION BENDING • DEBURRING • CHAMFERING MACHINERY

▲ For more details circle **NED-872 D5** on enclosed inquiry slip ▲

PLS*

For your convenience: available in handy 1-lb. brush top cans.

"John Crane" *Plastic Lead Seal is the most economical all-purpose sealing compound for pipe joints, studs and gaskets—*because you use less to get a better seal.* PLS seals for the life of the connection, yet never hardens, allowing joints to be easily broken after years of service.

PLS prevents galling . . . is insoluble in water, gas, steam, many chemicals and all petroleum products. Use it for all services . . . low or high pressure applications up to 6000 psi. . . . temperatures to 500°F. Carries the Underwriters' seal of approval.

Prove to yourself that it takes less PLS to give a perfect seal. Send for a generous free sample. Crane Packing Company, 1811 Cuyler Avenue, Chicago 13, Illinois.

CRANE PACKING COMPANY

In Canada: Crane Packing Co., Ltd., 617 Parkdale Ave., N., Hamilton, Ont.

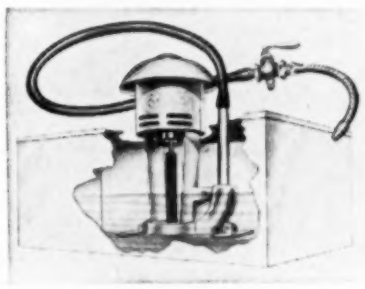
▲ For more details circle **NED-873 D5** on enclosed inquiry slip ▲

IN-FLOOR CONVEYOR is double-track handling system

Moving of skid-mounted and pallet loads as well as heavy boxes and similar items is facilitated by this Epco Double Trackage system. It consists of two tracks composed of series of sealed ball-bearing rollers designed for floor operation. Loads ride easily on these rollers. Trackage can be installed in loading docks, bridges, scales, elevators and paint floors. Turntables are used to change direction. Trackage is flush with floor, with tops of rollers extending slightly above the heavy steel safety treads. Foot and truck traffic can cross at any point. Made by **Engineering Products Co.,** Dept. ND, 122 S. Michigan Ave., Chicago 3, Ill.

▲ For more details circle **NED-874 D5** on enclosed inquiry slip ▲

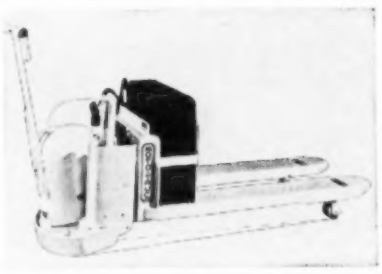
COOLANT PUMP delivers up to 720 gph



Coolants, cutting oils, water solvents and other light liquids can be pumped to machines requiring coolant by the model 400 dripproof coolant pump. It is capable for pumping up to 720 gph at 0.87-psi. It can also be used for liquid abrasive applications such as glass polishing and grinding. Impeller, drip shield, cord insulation and hose are molded neoprene. Stainless steel shielded ball bearings and stainless steel shaft resist rust and corrosion. Pump has no bearings or seals below liquid level and is available with or without a 6 or 12-gal tank. Made by **Junior Tool Co.,** 975 W. First St., Azusa, Calif.

▲ For more details circle **NED-875 D5** on enclosed inquiry slip ▲

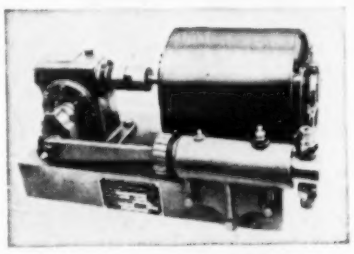
ELEVATING FRAME TRUCK handles pallets on uneven floors



Jack Knife line of powered industrial hand trucks now includes a pallet model. Truck frame is raised to provide sufficient clearance over uneven floors or sharply rising ramps. Dotted line in photo shows conventional truck clearance angle and solid line shows Jack Knife truck clearance. Action is accomplished by means of a hydraulic pump and ram unit, now optional on entire line of Moto-Truc walkie trucks. Truck also has standard controls and "dead-man" brake and is powered by 12 or 18-v battery. Made by **Moto-Truc Co.,** 1961 E. 59th St., Cleveland 3, O.

▲ For more details circle **NED-876 D5** on enclosed inquiry slip ▲

PROPORTIONING PUMPS made in simplex and duplex types



Packing gland with external adjustment for compression, steel crosshead running in a machine bronze guide and forged or stainless steel liquid end are features of Phila - Feeder controlled capacity proportioning pumps. Applicable to general water treating requirements, they are made in simplex and duplex types. Feeds vary from 2 to 18.6 gal per hr with maximum discharge pressures up to 800 psi. Piston and valve balls are ground and polished stainless steel. Connecting rod bearings are hardened and ground pins running in grease lubricated needle bearings. Made by **Philadelphia Pump & Machinery Co.,** 353 Wynnewood Ave., Wynnewood, Pa.

▲ For more details circle **NED-877 D5** on enclosed inquiry slip ▲

Look at the operations they perform!

Versatile? Yes! They'll also perform many operations unique to your plant. Automation is today's watchword! Modernize with Dial Feeds—and watch production go up, costs go down. Federals reduce accidents, cut down-time, eliminate expensive equipment. Precision-built. Finest materials. Available in sizes 6 to 80 tons. Automatic feeds and ejectors, if desired.

Write for new Catalog

THE FEDERAL PRESS COMPANY, 506 Division Street, Elkhart, Indiana

FEDERAL DIAL FEED PRESSES

30 Years of Quality Construction

▲ For more details circle **NED-878 D5** on enclosed inquiry slip ▲

R&S EVER-LOK®

Automatic Locking

MULTI-CIRCUIT RECEPTACLES • PLUGS • CONNECTORS

5 Amp., 250 Volts, A.C. or D.C.

TWO TO TWELVE POLE—POLARIZED

Wherever the modern trend toward automation requires fully automatic product and process control, R & S Ever-Lok multi-circuit plugs, receptacles and connectors provide a happy ending for cord connecting problems. These rugged, dependable automatic-locking multi-circuit devices are quality engineered to carry full-rated load currents safely and easily under the most severe operating conditions.

Write for Sales Data Sheet 1355-15

● R & S Ever-Lok complete lines are available from Midget type 10 amperes to 200 amperes heavy service types . . . standard or reverse service . . . fused and non-fused types.

C15

RUSSELL & STOLL COMPANY, INC. • 125 BARCLAY STREET, NEW YORK 7, N. Y.

RUSSELL & STOLL

PRECISION-BUILT ELECTRICAL EQUIPMENT—SINCE 1902

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See how "National" can help you solve "SPECIAL" fastener problems

In many cases involving "special" fasteners or small parts, National's "Special Products Service" has planned a method of manufacture by cold heading that has solved the problem . . . with economy and volume production. Just a few of the many "specials" produced at National are included in this factual 16-page booklet. Send for your free copy today and see how National's wide range of cold heading equipment and specialized know-how can help you solve a limitless variety of "special" fastener problems.

FREE BOOKLET

National PRODUCTS

THE NATIONAL SCREW & MFG. CO.
2440 East 75th St.,
Cleveland 4, Ohio

▲ For more details circle NED-880 D5 on enclosed inquiry slip ▲

WHICH DO YOU DO?

LOADING & UNLOADING
SHEET FEEDING
WORK POSITIONING
DIE HANDLING

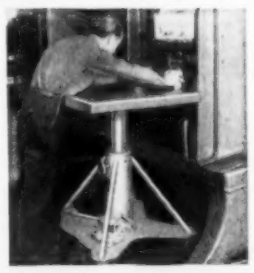
RAYMOND

PORTABLE Hydraulic ELEVATING TABLE

FITS ALL FOUR!

No table has so many practical uses as this RAYMOND Portable Hydraulic Elevating Table! Use it for positioning or handling throughout the plant . . . see how it lightens your work load. RAYMOND Hydraulic Elevating Table has sturdy 30" square top which can be rotated when desired.

Convenient foot pump simplifies raising and lowering, leaves operator's hands free. Smooth-rolling casters make table highly portable. Floor lock holds it securely in place. Standard Model elevates from 28" to 44"; Telescopic Model from 28" to 50". Both models have 2,000 lb. capacity.



The RAYMOND CORPORATION
4156 Madison St., Greene, N.Y.
Please send Portable Elevating Table bulletin.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

▲ For more details circle NED-881 D5 on enclosed inquiry slip ▲

New Literature and Catalogs

Tracing Medium

Frederick Post Co.—Fact file on PTM tracing medium contains working samples of the paper. Advantages of this medium are film-like transparency, evenly textured surface and dimensional stability.

▲ For more details circle NED-882 D5 on enclosed inquiry slip ▲

Steel Sheets & Wire

Continental Steel Corp.—Offered as a guide to wire specifications, 20-page pocket-size manual "Steel Sheets and Wire" also covers steel sheets. Listed are tempers, sizes, shapes and finishes of wire together with complete data on galvanized, copper, Konik, Galvannealed and Dull Coat steel sheets.

▲ For more details circle NED-883 D5 on enclosed inquiry slip ▲

Jacketed Pumps

Viking Pump Co.—Jacketed positive displacement pumps, designed with only two moving parts, are described and illustrated in the 10 pages of plastic-bound catalog section E. They maintain uniform hot or cold temperature and are offered in 90 to 485 gpm capacities, in a variety of drives and metals. Design features and detailed specifications are given.

▲ For more details circle NED-884 D5 on enclosed inquiry slip ▲

L-P Gas Valves

Ohio Injector Co.—Application and performance data on line of valves for the positive control of L-P gas are given in 4-page illustrated bulletin 1002. Sizes range from 1/8 to 3 in. for pressures up to 400 psi in screwed and up to 225 psi in flanged types.

▲ For more details circle NED-885 D5 on enclosed inquiry slip ▲

Industrial Engines

Westinghouse Air Brake Co., Le Roi Div.—8-page illustrated bulletin E-9 contains performance data on 115 to 410-hp valve-in-head V-8 and V-12 industrial engines. Features include cam-ground aluminum pistons, drop-forged crankshafts with polished bearing surfaces, full-flow oil filters and full-pressure lubrication.

▲ For more details circle NED-886 D5 on enclosed inquiry slip ▲

Castings

American Brake Shoe Co.—Absco Metal castings for industry are described in 8-page illustrated bulletin B-101. Five engineering types of Absco metal and several types for heat and wear resistance are covered. Typical applications as crankshafts, machine tool base, valve body and pig molds are described.

▲ For more details circle NED-887 D5 on enclosed inquiry slip ▲

Heating Panel Finned Tubing

Kritzer Radiant Coils, Inc.—The installation and operation of finned tubing for radiant panel heating installations is explained in bulletin 155. It also points up operation and advantages of radiant panel heating using special techniques with finned coils.

▲ For more details circle NED-888 D5 on enclosed inquiry slip ▲

Traveling Cranes & Hoists

Detroit Hoist & Machine Co.—Single and double girder cranes of various types, floor and cab controls, trolleys for all crane types and typical installations of this equipment are outlined and illustrated in 12-page catalog 795. Capacities range up to 5 tons.

▲ For more details circle NED-889 D5 on enclosed inquiry slip ▲

Floor Trucks

Hamilton Caster & Mfg. Co.—Complete line of platform, two-wheel hand, shelf and tray, box and wagon trucks, skids and dollies for industrial uses are illustrated and described in 64-page catalog 100. Technical data and specifications are included.

▲ For more details circle NED-890 D5 on enclosed inquiry slip ▲

Hydraulic Presses & Casting Machines

Lake Erie Engineering Corp.—Hydraulic presses and die casting machines are subject of general catalog 1.1. This basic buyer's guide features comprehensive chart which relates various types of presses to their most suitable production uses. Representative photos combine with chart to simplify choosing of the most appropriate of over 3500 designs.

▲ For more details circle NED-891 D5 on enclosed inquiry slip ▲

Chop! Chop!
GOES YOUR PRODUCTION COSTS

If you use
QUALITY CONTROLLED
"SUPERIOR"
ABRASIVE DISCS

Prove to yourself that they offer
LOWEST PRICE
HIGHEST QUALITY
FASTEST CUTTING
LONGEST LIFE

100% RESIN

A Superior Disc for A Happier Operator

100 Years of Know How

MANUFACTURED BY
STANDARD ABRASIVES CO.
27 MAPLE STREET • HOLBROOK, MASS.

▲ For more details circle NED-892 D5 on enclosed inquiry slip ▲

Is this the way your plant gets its MAKE-UP AIR?

IF SO, YOU NEED WING FRESH AIR SUPPLY HEATERS

Air exhausted from plant operations must be replaced. If no other means are used, it rushes back through open doors or windows, seeps in cracks and crevices interfering with the efficient operation of your exhaust fans and heating system.

WING FRESH AIR SUPPLY HEATERS furnish make-up air properly heated. Require no expensive duct work. Cannot freeze, because full steam pressure is always on.

Write for complete information

L. J. Wing Mfg. Co. 165 Vreeland Mills Rd., Linden, N.J.

▲ For more details circle NED-893 D5 on enclosed inquiry slip ▲

NEW!

low cost 1-3/4 roller for medium duty CONVEYOR SYSTEMS

This new, lighter weight Rapistan 1¾" roller is lower in cost, sturdy and efficient. Rollers are available in 12" and 18" frames, 5 ft. and 10 ft. sections with up to 1500 lb. capacity. Curve sections available for complete line systems.

FREE *Rapistan's big new 1955 catalog of conveying equipment for every need. Or write for case history "Field Reports" on your specific industry.*

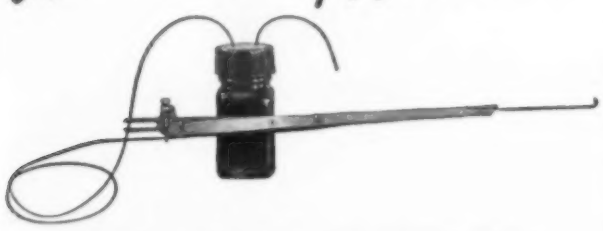
Rapistan

The RAPIDS-STANDARD CO., Inc.
472 Rapistan Bldg.
Grand Rapids 2, Mich.

▲ For more details circle NED-894 D5 on enclosed inquiry slip ▲

ARCCO CANNON NEVER-DRY PEN

Writes for Months



REPLACES OTHER MAKES • USES REGULAR INKS

Regardless of pulsations or other causes of ink failures this new Never-Dry Pen will make clean and complete records. Ink supply lasts for several months without refilling reservoir. Capillary tube from ink bottle placed in instrument case feeds pen with continuous flow. Closed system sealed from atmosphere prevents clogging and dirt accumulation.

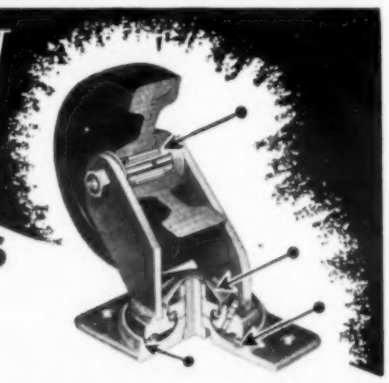
Weight of pen is constant at all times thus insuring extreme accuracy. No slopping or dripping. Stainless steel construction—no corrosion. When ordering, specify make and type of recording instrument

AMERICAN RECORDING CHART CO.
3113 E. 11th St. • Los Angeles 23, Calif.

$6.00 each Net
Send for quantity prices

▲ For more details circle NED-895 D5 on enclosed inquiry slip ▲

new



ALBION'S SEALED CASTERS

Another *first* for Albion Casters! A completely sealed caster that stays sealed . . . completely eliminating the need for periodic maintenance due to grease loss, dirt, debris, water or other foreign matter.

Albion casters have been completely redesigned to incorporate precision *moulded* Synthi-Rubber ring gaskets around the load raceways and the wheel axle ends. In addition, a formed steel, leakproof retainer cup is press-fitted over the thrust raceway . . . thus, Albion's *completely sealed* casters outlast ordinary casters and save your equipment dollars.

HERE'S WHY . . . Albion caster engineers would not accept the so-called "sealed casters" available which employed flat rubber, felt or steel baffles as "seals". As a result, they designed and developed precision moulded Synthi-Rubber gaskets to guarantee a truly sealed caster to solve your caster problems.

Albion's new completely sealed casters are available in a broad range of popular sizes and wheel types to suit your needs.

See them at the
CHICAGO MATERIALS HANDLING SHOW
Booth 1906

ALBION INDUSTRIES, INC.
ALBION, MICHIGAN

▲ For more details circle NED-896 D5 on enclosed inquiry slip ▲

STANDARD PNEUMATRACTOR

STANDARD PNEUMATRACTOR

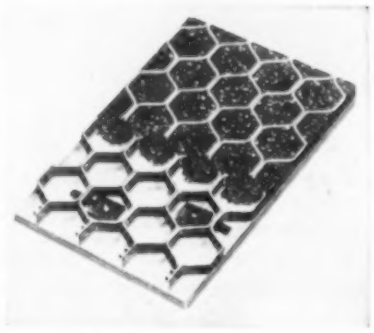
NOW . . . A SELF-PROPELLED AIR COMPRESSOR AT THE PRICE OF A WHEEL-MOUNTED AIR COMPRESSOR

SCHRAMM, INC.
WEST CHESTER PENNSYLVANIA
SCHRAMMAIR YOUR JOBS

▲ For more details circle NED-897 D5 on enclosed inquiry slip ▲

New Processes and Materials

SAFETY FLOOR ARMOR
usable for resurfacing floors



Designed to resist abnormal wear and severe service, Hexsteel safety floor armor is economical to install. This 3/8-in., 16-gage material can be used for resurfacing existing concrete or wood floors and weighs only 1.7 lb per sq ft. When filled with hot or cold mastic, it provides durable safe floor surface. It can also be used as steel armor in new concrete floor installations. Continuous steel mesh prevents cracking, swelling, warping or shrinkage. Panels are fabricated for easy installation with sides and ends that lock together to form a continuous floor armor. It can be anchored to concrete surfaces with powder-powered fastening devices. Made by **Klemp Metal Grating Corp.**, 6605 S. Melvina Ave., Chicago 38, Ill.

▲ For more details circle NED-898 D5 on enclosed inquiry slip ▲

LOW-HYDROGEN ELECTRODE
in sizes from 3/32 to 1/4-in.

Stability and ease of handling makes DH-170 low-hydrogen electrodes practical for high-speed welding operations. They also feature improved striking and restriking characteristics. Bead appearance and slag removal are high quality. Electrode is offered in sizes from 3/32 up through 1/4-in. Made by **Harnischfeger Corp.**, P&H Welding Equipment Div., 4618 W. National Ave., Milwaukee 46, Wis.

▲ For more details circle NED-899 D5 on enclosed inquiry slip ▲

READY-MIXED SOLDER
paste is applied with squeeze bottle

Packaged in squeeze-type plastic bottle, Redi-Mix solder is easily spread on areas to be bonded. This creamy paste is composed of correct proportions of fine - powdered solder and active flux. Heat is all that is required to effect permanent bond. It tins and sweats in single operation and is available in 3-oz trial size as well as 1/2 and 1-lb squeeze bottles. Made by **Anchor Metal Co.**, 244 Boerum St., Brooklyn 6, N. Y.

▲ For more details circle NED-900 D5 on enclosed inquiry slip ▲

SELF-ADHESIVE FELT
in tape, dot and special shapes

Self-adhesive felts for industrial application will adhere to rough or smooth surfaces of wood, metal, plastic, glass, china or other materials. The felt is ordinarily handled in rolls, backed by Holland cloth from which it easily separates. It is offered in tape, dot, washer and special shapes and is used for surface protection, separators, silencers, vibration dampers, insulation, sealing openings or seams, as felted bases and many other applications. Feltapes are offered in 1/16 and 1/8-in. thicknesses and 1/8 to 6-in. widths. Feltdots of 1/16-in. thickness are offered in diameters of 1/4, 3/8, 7/16 and 1/2-in. and in 1/8-in. thickness in 7/16 and 1/2-in. diameters. Made by **J. B. Dawn Products, Inc.**, Dept. 42, 3905 W. 64th St., Chicago 29, Ill.

▲ For more details circle NED-901 D5 on enclosed inquiry slip ▲

Drill Hardened Steels without Annealing—

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It—
With "HARDSTEEL"

BLACK DRILL COMPANY, INC.
1380 East 222nd St. • Cleveland 17, Ohio

Also makers of—
BLACK DRILLING UNITS—AUTOMATIC, SELF-CONTAINED—FOR COST-CUTTING PRODUCTION ON ALL MATERIALS
Write for information

▲ For more details circle NED-902 D5 on enclosed inquiry slip ▲

Many BRUNT FAULTFINDERS Protect FORD PLANTS against accidental grounds

Following a serious ground at one of its largest assembly plants, Ford placed an emergency order for a Brunt Faultfinder, which pin-pointed the trouble immediately.

Since that initial purchase, Ford Motor Company, noted for shrewd buying of equipment, has ordered sixteen Brunt Faultfinders. These protect Ford Assembly Plants against production delays due to accidental grounds in normally ungrounded power circuits. And Ford is just one of many large companies using more than one Brunt Faultfinder.

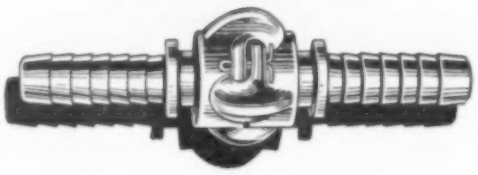
One hour of production shutdown in an average plant can cost more than the Brunt Faultfinder that could have prevented it. This fast-working instrument locates grounds in circuits up to 550 volts a.c. or d.c. in minutes. No pulling of switches . . . no interference with production . . . can be used in dark or noisy locations . . . no delicate meters to adjust . . . traces pole line signals without climbing . . . easy one-man operation.

Order this useful instrument today or send for new descriptive booklet.

PARR MANUFACTURING CORP.
40 Austin Street Newark 5, N. J.

▲ For more details circle NED-903 D5 on enclosed inquiry slip ▲

"AIR KING"



QUICK-ACTING, UNIVERSAL TYPE

HOSE COUPLING

A strong, durable coupling for quick, tight connections on field or factory air hose. Plain design—no parts to get out of order or clogged with dirt. Made in hose ends and male and female threaded pipe ends. Completely interchangeable. Patented safety locking device is proof against vibration and rough handling. Malleable iron (rust-proofed) or bronze.

From Your Hose Supplier or Industrial Distributor

DIXON VALVE & COUPLING CO.

PRODUCERS OF *The Quality Line* COUPLINGS • NIPPLES • MENDERS • CLAMPS

"BOSS" "GJ-BOSS" "DIXON" "KING" "AIR KING" "DIX-LOCK"

PHILADELPHIA, PA. BRANCHES: CHICAGO • BIRMINGHAM • LOS ANGELES • HOUSTON

For more details circle NED-904 D5 on enclosed inquiry slip

NEW FREE CATALOG

FOR

- Designers
- Purchasing Agents
- Engineers
- Superintendents
- Managers

FREDDY FEDERAL will rush your copy today!

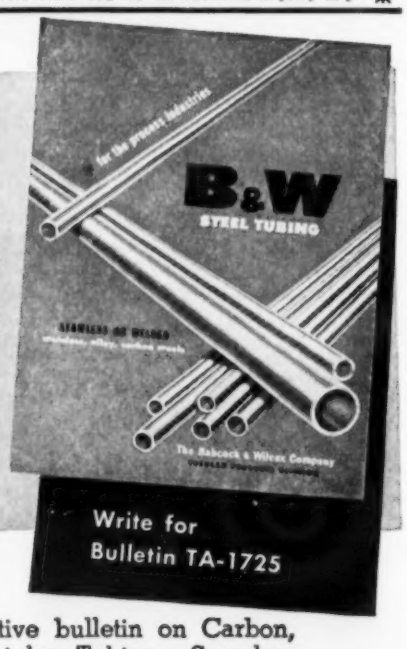
Costs, materials, and procedures graphically illustrated. New catalog tells where and how you can save money using Short Run Stampings. Also design tips to reduce stamping costs.

Write for your copy of catalog 201 today.

Federal TOOL AND MANUFACTURING CO.
3618 ALABAMA AVE. (ST. LOUIS PARK)
MINNEAPOLIS, MINNESOTA
"QUALITY STAMPINGS IN SMALL QUANTITIES"

For more details circle NED-905 D5 on enclosed inquiry slip

FOR THE PROCESS INDUSTRIES



Write for Bulletin TA-1725

. . . informative bulletin on Carbon, Alloy and Stainless Tubing — Seamless and Welded. Gives listing of B&W Tubing Steels with Tubing Properties Chart.

TA-4000(LP)

THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION
Beaver Falls, Pa. and Milwaukee, Wis.: Seamless Tubing, Welded Stainless Steel Tubing
Alliance, Ohio: Welded Carbon Steel Tubing
Milwaukee, Wis.: Seamless Welding Fittings

For more details circle NED-906 D5 on enclosed inquiry slip

New Literature & Catalogs

Steam Boilers

Wm. Bros Boiler & Mfg. Co.—Bros S series boilers with capacities ranging from 10,800 to 50,000 lb of steam per hr are described in 8-page illustrated bulletin WT-8. Specifications and performance data are given on these boilers which can be furnished for coal, oil or gas firing.

For more details circle NED-907 D5 on enclosed inquiry slip

Hydraulic Pumps

New York Air Brake Co., Dudco Div.—PV-600 series high pressure variable delivery hydraulic pumps are designed for use in hydraulic systems requiring constant pressure with control of fluid delivery from zero to full flow. Four-page bulletin DP350 discusses the pumps which develop continuous duty pressure up to 5000 psi and deliver 4.0 gpm at maximum continuous rated speed of 2000 rpm.

For more details circle NED-908 D5 on enclosed inquiry slip

Mass Spectrometer

Consolidated Engineering Corp. — 16-page illustrated manual No. 1800C clearly explains why the type 21-103C mass spectrometer is the accepted standard for analytical measurement and research. Applications and operation of this precision industrial research instrument are covered.

For more details circle NED-909 D5 on enclosed inquiry slip

Heating & Air Conditioning Controls

White-Rodgers Electric Co. — Automatic controls for heating, refrigeration and air conditioning equipment are described in 32-page illustrated catalog 1955. Complete performance data are given on room and space thermostats, relays, pressure controls and hydraulic-action temperature controls. Also covered are controls for oil and gas fired heating systems.

For more details circle NED-910 D5 on enclosed inquiry slip

Relief Valves

Cochrane Corp.—20-page illustrated catalog 5200 is guide to the design, operating, performance and application of multiport relief valves for steam, air or gas service. They provide maximum safety, overpressure regulation and ease of adjustment.

For more details circle NED-911 D5 on enclosed inquiry slip

Catalog of Technical Data Books

Lefax Publishers—Revised catalog of "Pocket-Size Lefax Technical Data Books" is available to engineers, designers and production executives. Listed are latest revisions of material and technical developments on complete range of subjects such as air conditioning, piping, mathematics, physics, chemistry, metallurgy, mechanics of materials, machine design, thermodynamics, hydraulics, radio and electronics, electricity and machining.

For more details circle NED-912 D5 on enclosed inquiry slip

Controlled Capacity Pumps

Philadelphia Pump & Machinery Co.—Controlled capacity pumps and proportioning equipment are subject of illustrated catalog S-1254. It covers standard pumps for pressures to 1500 psi and low pressure types for up to 800 psi. Capacities range from a few cubic centimeters per hour to 3300 gph. Also described are controls which proportion pump capacity in relation to such variables as temperature, flow, level, pressure, conductivity and pH value.

For more details circle NED-913 D5 on enclosed inquiry slip

Automation Equipment

Expert Welding Machine Co.—54-page illustrated catalog describes wide variety of welding machines, automatic equipment and machine tools. Covered are 46 types of automatic welders for submerged arc, resistance and Heliarc welding. Automatic assembly and nut torquing machines are also detailed. Special machine tools include boring, drilling and tapping machines.

For more details circle NED-914 D5 on enclosed inquiry slip

Preheating Chart

Tempil Corp.—Recommended preheat temperatures for 79 commonly used metals and alloys such as carbon steel, high tensile steel, medium chrome moly steel and chrome steel are tabulated in usable form on the "Tempil Preheating Chart." Listed data includes metal group, designation, approximate composition, recommended preheat and rating of Tempil temperature indicating crayons or pellets.

For more details circle NED-915 D5 on enclosed inquiry slip

MEET THE CHAMP!

UNIVERSAL DRILL BUSHINGS BEAT ALL RECORDS FOR LONG LIFE AND ACCURACY

179-A

UNIVERSAL ENGINEERING COMPANY
FRANKENMUTH 5, MICHIGAN

For more details circle NED-916 D5 on enclosed inquiry slip

You can *see* why Magcoa truck Dockboards perform better . . .

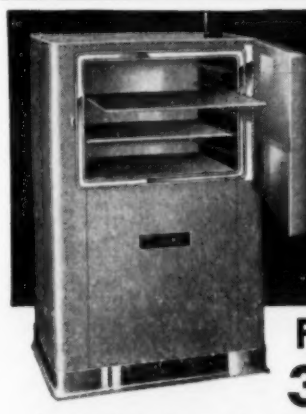
Look underneath to see another Magcoa feature that insures better performance, longer Dockboard life on your truck dock: the 7½-inch safety angle. It fits snug in the narrow gap which results when you back into the dock and set your brakes; no need to move truck or trailer a second time. Regardless of abuse, the Magcoa safety angle holds up, won't crush or break. Spindly channel sections and other fragile locking devices can't take this kind of rough treatment.

The whole story is told in a new bulletin, "Look Into *And Under* Magcoa Dockboards." Write today for your free copy.

LOOK UNDERNEATH!
You will see the ⅝"x7½" Magcoa safety angle. It extends the full width of the Dockboard and is welded on all 4 sides—in this case, 124 inches of continuous precision welding.

MAGNESIUM COMPANY OF AMERICA
MATERIALS HANDLING DIV. • EAST CHICAGO 6, IND.

For more details circle NED-917 D5 on enclosed inquiry slip



LABLINE "Force-Aire" BENCH-SAVER OVENS

For LAB or PLANT

3 SIZES Duo Temperature range to 525°F

Designed to give maximum loading capacity with minimum space requirements, Labline "Force-Aire" Bench Saver Ovens eliminate the necessity of utilizing valuable bench space. Generally, bench type ovens are twice as wide as the loading chamber causing a 50% loss in available working space. Because Labline Bench Saver Ovens set directly on the floor, this permits a 100% utilization of bench. Cost is less, than bench type ovens when the cost of bench space and floor stands are accounted for.

Labline "Force-Aire" principle provides complete recirculation of air, through air ducts and perforated diffuser walls assuring greatest temperature uniformity. Features include: Silicone Door Gaskets; Stainless Steel Sliding Shelves; Modern Cabinet Design; Hydraulic Thermostat; 4" Insulation; Inconel Heaters; many other Labline exclusives! 3 sizes available.

For details and prices request Bulletin NE-5

LABLINE, INC. 217 N. DESPLAINES ST. CHICAGO 6, ILL.

For more details circle NED-918 D5 on enclosed inquiry slip

WEIGHER, PACKAGER, COUNTER

with vibrating bowl feeder . . . semi-automatic controls . . .

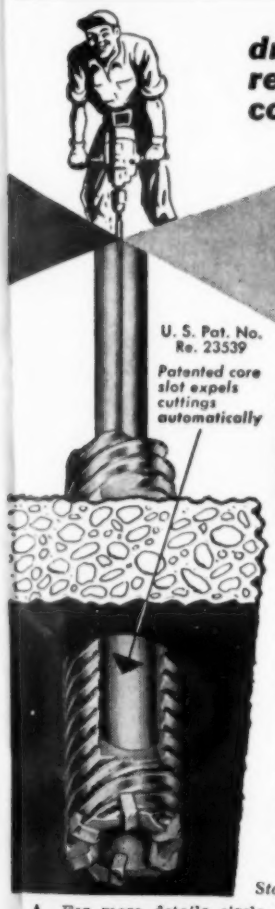
Complete unit available for accurately counting by weight and sacking or boxing screws, nails, buttons, small parts, etc. Can also be used for small granular materials. Single file feeding for greater accuracy. Complete with electronic controls. Write for descriptive folder.

Exact Weight Scales

Better quality control
Better cost control

THE EXACT WEIGHT SCALE COMPANY
930 W. Fifth Avenue, Columbus 8, Ohio
In Canada: P. O. Box 179, Station S, Toronto 8, Ont.

For more details circle NED-919 D5 on enclosed inquiry slip



drill reinforced concrete with

TILDEN

ROTARY KONKRETE KORE DRILLS

up to **6** *inches of concrete per minute*

Get maximum drilling at minimum cost with Tilden's Konkrete Kore Drills. Cut 5 to 7 times more holes than ordinary drills. Drill clean, straight, ready-to-use holes at speeds up to 6 inches a minute—even through steel-reinforced concrete. Can be used with ordinary electric or rotary air motors—interchangeable shanks available. Free factory resharpening continued on sizes from 3/16" thru 6" diameter.

NEW! HAMMERCORE BITS!

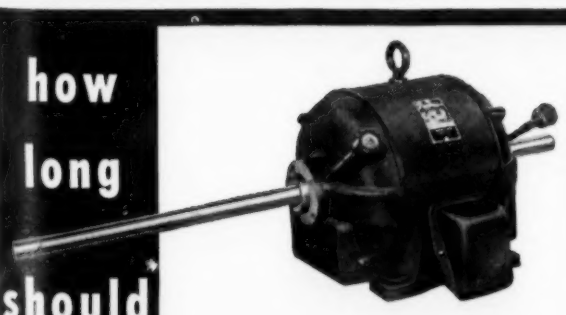
Now—double the capacity of your electric hammer—cut drilling time in half even in hardest masonry. Can be used from ladders and scaffolds with minimum pressure. Sizes 1/4" thru 1 1/2". Write for details and prices.

TILDEN TOOL Mfg. Company
209 Los Melinos • San Clemente, Calif.

Stocked at Leading Supply Houses Everywhere

For more details circle NED-920 D5 on enclosed inquiry slip

how long should a shaft be ?



• This unique motor was designed by Peerless engineers to drive a siren. The motor has a rather long acceleration period and is fitted with special grease cups that protrude beyond the siren housing. The shaft is unusually long—37" and must be exceptionally true from end to end. This is one of hundreds of motors produced by Peerless "teamwork-engineering"—our engineers working with customer engineers to create the one motor that does the job best. Peerless can design similar features for you. Let us work with you on your next motor application. A letter or phone call will get us started.

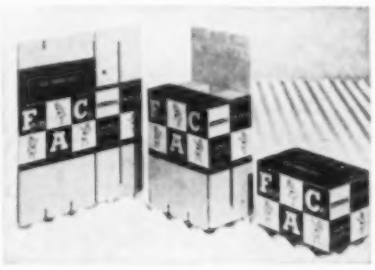
Emblem of Business Character — Rice Leaders of the World Association

ELECTRIC MOTOR DIVISION
THE Peerless-Electric COMPANY
FANS · BLOWERS · MOTORS · ELECTRONIC EQUIPMENT
1506 W. MARKET ST. • WARREN, OHIO

For more details circle NED-921 D5 on enclosed inquiry slip

New Processes & Materials

ONE-PIECE CELLED CARTON for packaging small, fragile items



Simplified packing plus adequate protection to small, fragile items is provided by the Form-A-Cel one-piece corrugated celled box. Container features specially scored and die-cut flaps that fold in to form 4, 6, 8 or 12 individual cells without using interior pieces, or 8, 12, or 16 cells by using single corrugated divider pad. It is successfully being used to package glassware, writing inks, medicines and various other small items. Made by **Hinde & Dauch,** Sandusky A, O.

For more details circle NED-922 D5 on enclosed inquiry slip

BARREL FINISHING ABRASIVE treated to remove sharp edges

Exolon abrasive for barrel finishing is made from selected grades of aluminum oxide and is processed to remove all sharp edges which might scratch the

work. Sizes range from 2 in. down. Material is made in an electric arc furnace and has crystals with facets in every conceivable direction. Constant use does not impair the abrasive quality, but does reduce the size. Made by **Exolon Co.,** 986 E. Niagara St., Tonawanda, N. Y.

For more details circle NED-923 D5 on enclosed inquiry slip

SLIP-PROOF FLOOR COATING for masonry, wood, metal and tile

Easily applied to most surfaces with paint brush, NSC nonskid coating bonds permanently with concrete, wood, metal tile, terrazzo or brick. This long-wearing safety floor coating is waterproof and can be cleaned with soaps, washing powders and commercial detergents. Standard colors are flare red, cement gray, Walton green and slate gray. Coating is compounded of plastic resins and polymerized oils, with aluminum oxide granules added. Made by **Walton-March,** 21 W. Ontario St., Chicago 10, Ill.

For more details circle NED-924 D5 on enclosed inquiry slip

GLASS FIBER BUILDING INSULATION has thermal and acoustical qualities

Thermal and acoustical insulation for roofs and walls, as well as attractive interior finish is provided by Fiberglas industrial building insulation. Product is designed for use with protected metal, cement asbestos board, aluminum or painted galvanized sheets for construction of warehouses, foundries, assembly and manufacturing plants and aircraft hangars. Faced on one side with Fiberglas mat, it is strong enough to span spaces between tee bars and purlins without deflection. It is offered in 24-in. widths, lengths to 96 in. and thicknesses of 1 to 2 1/2 in. Product has tan, rippled-textured appearance softened by mat adhered to exposed face. Surface fibers are matted and facing provides an easily painted interior side. Made by **Owens-Corning Fiberglas Corp.,** Nicholas Bldg., Toledo 1, O.

For more details circle NED-925 D5 on enclosed inquiry slip

The New CLEARVIEW NAMEPLATE PRESS

EASY TO OPERATE • COMPACT • DURABLE

Here at last is a new low-priced Nameplate Press that will pay for itself quickly and many times over.

Now you can stamp neat, perfectly aligned letters and figures on all types of identification plates with this new, easy-to-operate Nameplate Press: MACHINERY DETAIL PLATES KEYS — TAGS — CHECKS IDENTIFICATION PANELS and scores of other identification purposes.

ELIMINATES OBSOLETE STAMPING BY HAND

- Stamps Neat Uniform Characters
- Fully Automatic Letter Spacing
- High Quality Hardened Steel Dial
- Interchangeable Dial Adjustment
- Accommodates Plates up to 4" x 8"
- Prevents Irregular Alignment—Spacing—Depth

FULLY GUARANTEED

Write, call or wire today for complete information and price.

PERMANENT IDENTIFICATION—It is often hard to keep tab on various pieces of equipment because of inadequate or temporary methods of identification marking. A solution to this dilemma may be the metal stamping machine illustrated.

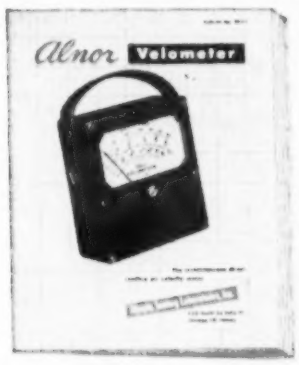
The CLEARVIEW Company
215 EAST SECOND STREET NEW YORK, N. Y.

For more details circle NED-926 D5 on enclosed inquiry slip

FREE

ILLUSTRATED BULLETIN

How you can save time by measuring air velocities with an
ALNOR VELOMETER



Developed to facilitate quick and easy determination of air velocities, the Alnor Velometer is a compact, precision instrument that provides instantaneous, direct readings in feet per minute, without timing, calculations or reference to conversion tables. Guaranteed accurate, in ranges from 20 f.p.m. to as high as 24,000 f.p.m. Also available with metric or miles-per-hour calibrations.

Tear out this ad and mail it with your business letterhead to Illinois Testing Laboratories, Inc., Room 529, 420 N. LaSalle St., Chicago 10, Ill.

Alnor

PRECISION INSTRUMENTS FOR EVERY INDUSTRY

For more details circle NED-927 D5 on enclosed inquiry slip

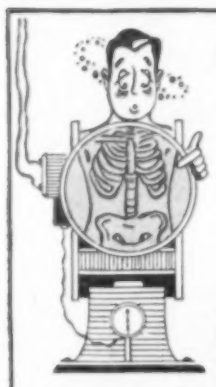
WIRE-MESH PRODUCTS

for all filtering and straining applications.
All meshes, all weaves, all alloys.

Send Specifications for an estimate.
Department 11.

THE C. O. JELLIFF
MANUFACTURING CORP. SOUTHPORT, CONN.

For more details circle NED-928 D5 on enclosed inquiry slip



"See all" with...

BOWSER

FLOW SIGHTS

Bowser Flow Sights let you "see all"—enable you to keep a watchful eye on your liquid handling operation. It pays to know the quality or the approximate quantity that's going through your lines.

Available in either single or double window types, in gravity or pressure models with or without electric control switch. Bowser Flow Sights are made in various metals for a variety of liquids.

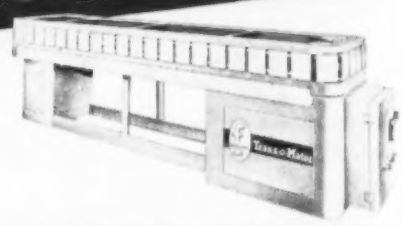
Fig. 811 Flow Indicator — Fig. 54A Flow Sight — Fig. 816 Teleflo Indicator

BOWSER, INC.
1381 Creighton Ave., Fort Wayne 2, Indiana

Liquid Handling Specialists Since 1885

For more details circle NED-930 D5 on enclosed inquiry slip

STANDARDIZED AUTOMATION!



THE FERGUSON Trans-o-Mator

★ Reduces Manpower ★ Increases Production ★ Improves Product Quality ★ Cuts Maintenance

with STANDARD STRAIGHT LINE MACHINES for AUTOMATIC ASSEMBLY

The Trans-o-mator is a standard machine containing a complete power transmission unit, including motor, reducer, clutch, Ferguson Roller Gear Drive for high speed precision indexing, chain and carriers. There is an electrical interlock system between the indexing and the tooling power supply as well as start, stop and jog controls and provision for an automatic scanning device to insure proper function of all stations.

MECHANIZE YOUR MANUAL OPERATIONS

★ 20,000 pieces per hour ★ Tool and retool as required

Send for Bulletin No. 400

FERGUSON MACHINE & TOOL CO., INC.
ROLLER GEAR DIVISION, DEPT. NT-4 P. O. BOX 191, ST. LOUIS 21, MO.

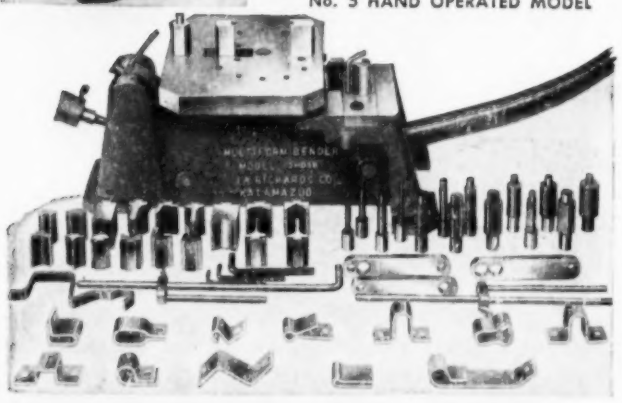
For more details circle NED-931 D5 on enclosed inquiry slip

THE FAMOUS MULTIFORM BENDER CUTTER

Produces Without Special Tooling—Saves Die Costs Saves on Expensive Presses

This efficient machine is useful in all lines of trade, spring plants, radio and electrical equipment manufacturers. Complete with tooling, for bending material up to 1/8" x 1 1/2".

No. 5 HAND OPERATED MODEL



AIR OPERATED MODELS AVAILABLE IN THIS AND LARGER SIZES

FIVE-IN-ONE-TOOL—ALSO LARGER MODELS
IT BENDS FLAT AND ROUND STOCK INTO ANY SHAPE, CUTS AND PUNCHES FLAT STOCK

J. A. RICHARDS CO. MYRTLE & PITCHER STS. KALAMAZOO, MICHIGAN

For more details circle NED-932 D5 on enclosed inquiry slip

New Literature & Catalogs

Flow Rate Meters

Brooks Rotameter Co.—20-page illustrated bulletin 115 is descriptive of line of full-view Rotameters. These flow rate meters perform indication, recording integration and control functions either alone or in conjunction with standard receiving instruments. Booklet covers construction and safety features, flow capacities, dimensions, tube and float material and design data. Accessories are also shown.

For more details circle NED-933 D5 on enclosed inquiry slip

Electric Moulders

Dependable Machine Co. — Complete information and specifications on 4, 6, 8 and 10-in. electric unit drive moulders in both standard and random length hopper feed models are provided in 12-page catalog C-12. Features added on machines since 1950, including the removable cartridge spindle unit, are discussed.

For more details circle NED-934 D5 on enclosed inquiry slip

Basic Type Relays

Guardian Electric Mfg. Co.—72-page catalog covers complete line of basic type relays as to physical and electrical characteristics, operation and suggested applications. Alternating and direct current relays include sensitive, heavy duty, industrial, midget, telephone, general purpose, snap switch and aircraft types with variety of covers and enclosures. Engineering and electrical terms, and laws are defined.

For more details circle NED-935 D5 on enclosed inquiry slip

Special Machine Tools

Snyder Tool & Engineering Co.—Described and illustrated in 12-page brochure are "Specially Designed Machine Tools." Transfer, center column and special machines for drilling, reaming, tapping, boring, turning, milling and mill-balancing operations are illustrated. How company utilizes five basic standard components to make up special automation units is shown as well.

For more details circle NED-936 D5 on enclosed inquiry slip

Heating & Ventilating Equipment

United States Air Conditioning Corp.—"This Is usAIRco" is 12-page booklet describing company's history, products and manufacturing facilities. Line of heating, ventilating and air conditioning products for commercial and industrial use are detailed. Central station packaged air conditioners range in sizes up to 60 hp.

For more details circle NED-937 D5 on enclosed inquiry slip

Cellular Glass Insulation

Pittsburgh Corning Corp.—"Foamglas in Thin Wall & Sandwich Panel Construction" is described in 12-page brochure of this title. Piece covers porcelain enamel panels, aluminum and stainless steel facings, concrete panels and spandrel construction. Foamglas is cellular all-glass insulating material made into lightweight, rigid blocks. It will not rot, burn or absorb moisture.

For more details circle NED-938 D5 on enclosed inquiry slip

Electrometric Titration

Fisher Scientific Co.—In-use photos, charts and curves in 16-page bulletin FS-247 show why titration-by-instrumentation has made volumetric analysis a fast, sure and convenient means of chemical control. Potentiometric, conductometric and amperometric titration are explained along with instrumentation for each kind.

For more details circle NED-939 D5 on enclosed inquiry slip

Titanium Tubing & Pipe

Carpenter Steel Co., Alloy Tube Div.—Advantages and applications of two grades of titanium tubing and pipe are detailed in 4-page illustrated bulletin T.D. 115. Physical properties and data on corrosion resistance, machining characteristics, forming, welding, heat treating and cleaning are given.

For more details circle NED-940 D5 on enclosed inquiry slip

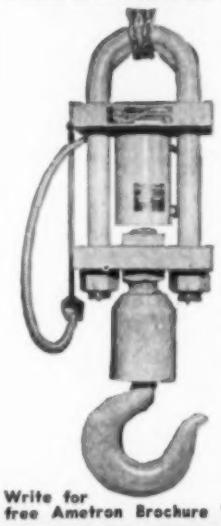
Centrifugal Pumps

Chempump Corp.—16 pages of illustrated bulletin 1010 present information on sizes, horsepowers, heads and capacities, dimensions, materials of construction and design and construction features of line of sealless, leakproof centrifugal pumps. Six model series ranging in size from 1/8 to 7 1/2 hp, with heads to 195 ft and capacities to 250 gpm, are covered.

For more details circle NED-941 D5 on enclosed inquiry slip

New Ametron®

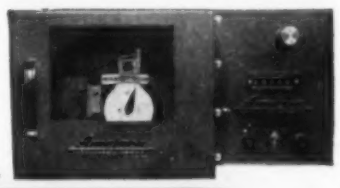
ELECTRONIC CRANE SCALE



Weighs heavy loads suspended from crane hook. Printer, located in crane cab or other convenient location, records weight on tape or cards. New compact printer only 22" x 18" x 10 1/2". Entire assembly designed for prompt and easy installation.

Now available at new low cost.

Capacities 5 10 15 tons



Write for free Ametron Brochure T-3.

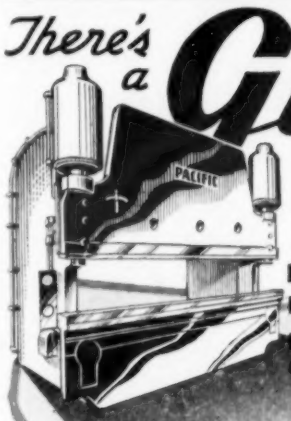
STREETER-AMET COMPANY
4101 RAVENSWOOD AVENUE • CHICAGO 13, ILLINOIS

THE STANDARD OF ACCURACY SINCE 1888

Branches in Detroit, Pittsburgh, Allentown, Birmingham and Los Angeles

For more details circle NED-942 D5 on enclosed inquiry slip

There's a Giant growing in the West



PACIFIC Press Brakes Now Outsell All Competitors Combined in California and Oregon

This Revolutionary Hydraulic Press Brake, First Introduced in 1946, Has Gained a Tremendous Acceptance by Western Industry and Is Now Rapidly Casting Its Shadow Across the Entire Nation.

THE PACIFIC is the only modern, advanced press brake designed for 1954—It can't be JAMMED—It can't be OVERLOADED—The stroke length is immediately ADJUSTABLE to match the job; imagine changing from a 1" to a 36" stroke in a few seconds! THE PACIFIC HYDRAULIC PRESS BRAKE is VERSATILE—It can be used for Deep Drawing, Heavy Punching, Air Bending, even Straightening. Custom presses can be delivered in a few weeks. Prices are competitive including freight costs from the West Coast. Sales and service available in all major cities.

PACIFIC INDUSTRIAL MFG. CO.
848 - 49th Avenue - Oakland, Calif.

For more details circle NED-943 D5 on enclosed inquiry slip

Kwik-Color Seal covers 800 sq. ft. per gallon

Kwik-Color Wax covers 1000 sq. ft. per gallon

Permanent color for concrete with KWIK-COLOR

Here's a new, easy way to add permanent non-fading color to your concrete floors, and eliminate concrete "dusting" forever!

KWIK-COLOR SEAL

A superior concrete beautifier and preserver made from an emulsified plastic resin. Odorless, non-inflammable, water resistant, easy to apply. Dries in 20 to 30 minutes. Busy floors are back in service within 2 hours after etching, sealing and waxing. Available in Tile Red or Light Gray permanent, non-fading colors.

KWIK-COLOR WAX

High gloss, waterproof emulsion wax for use over KWIK-COLOR SEAL to protect the seal during 14 to 20 day curing period. Highly water resistant, easy to apply. Dries in 20 to 30 minutes. Available in permanent, non-fading Tile Red or Light Gray colors.

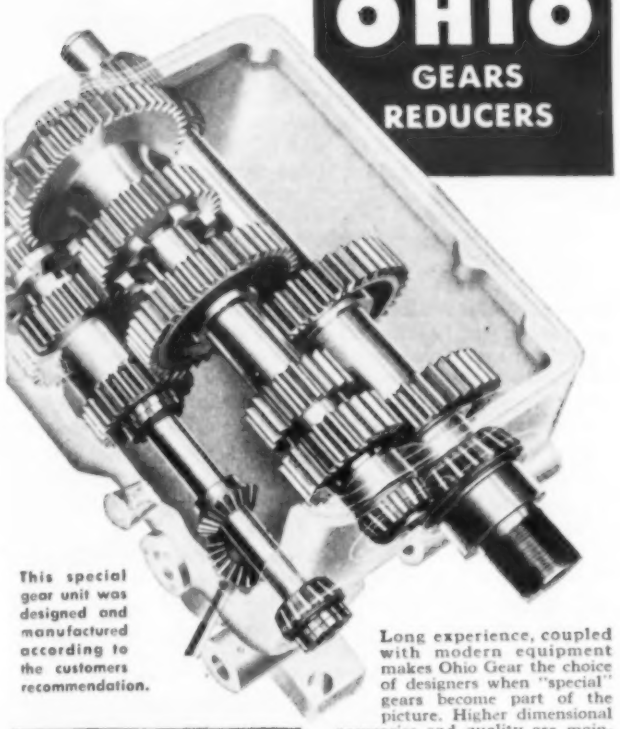
For more information, write ...

MULTI-CLEAN Method

MULTI-CLEAN PRODUCTS, INC.
Dept. NE-45, 2277 Ford Parkway, St. Paul 1, Minnesota

For more details circle NED-944 D5 on enclosed inquiry slip

OHIO GEARS REDUCERS



This special gear unit was designed and manufactured according to the customers recommendation.

Long experience, coupled with modern equipment makes Ohio Gear the choice of designers when "special" gears become part of the picture. Higher dimensional accuracies and quality are maintained through rigid production standards.

OHIO GEARS

ESTABLISHED 1915
THE OHIO GEAR COMPANY
1320 EAST 179th STREET • CLEVELAND 10, OHIO

▲ For more details circle NED-945 D5 on enclosed inquiry slip ▲

HERE'S PROOF

You'll get Better Service ...Longer Life with Rex Z-Metal Drive and Conveyor Chains

What's your problem . . . corrosion, abrasion, heavy pounding? What's causing your chain drives and conveyors to fail prematurely? This informative booklet has your answer . . . shows you how you can solve those problems with Rex® Z-Metal Chains. It proves why Z-Metal resists abrasion . . . corrosion . . . takes heavy pounding . . . with plenty of actual case histories to back up our story.

Why not send for your copy today—ask for Bulletin No. 53-56 . . . see how you can get far better service *at a saving.*

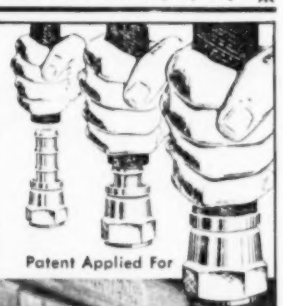
4686 W. Greenfield Ave., Milwaukee 1, Wis.

CHAIN BELT COMPANY

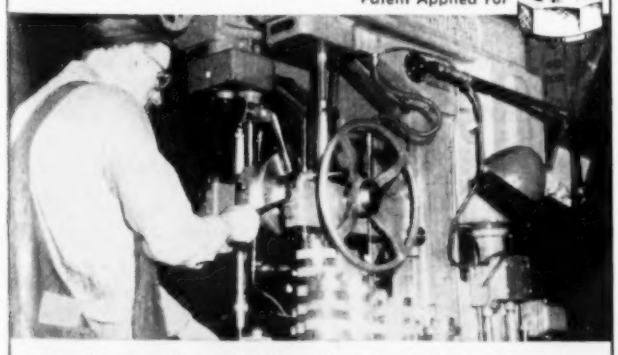
District Sales Offices and Distributors in all principal cities.

▲ For more details circle NED-946 D5 on enclosed inquiry slip ▲

AEROQUIP
SOCKETLESS
FITTINGS AND HOSE
SPEED MAINTENANCE



Patent Applied For



Hose line assembly couldn't be quicker or easier! Just cut Aeroquip 1525 hose to required length and PUSH it on the *SOCKETLESS* fittings. The pressure coolant lines on the drill press shown above are only one of hundreds of plant uses. Other applications: fuel, oil, water and air lines up to 250 p.s.i. See your distributor, or write us.

Aeroquip

AEROQUIP CORPORATION, JACKSON, MICHIGAN

FLEXIBLE HOSE LINES • DETACHABLE, REUSABLE FITTINGS • SELF-SEALING COUPLINGS • BREAKAWAY COUPLINGS • HYDRAULISCOPE
AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A. AND ABROAD

▲ For more details circle NED-947 D5 on enclosed inquiry slip ▲

New Processes & Materials

TEFLON YARN PACKING
handles corrosives at high speeds

Antifrictional properties of Teflon, combined with softness, resilience and fluid retaining properties of fiber yarn enables this packing to run cool at high peripheral speeds. Packing is tightly braided for density and firmness. Where lubrication is required, it can be impregnated with fluorolube or other materials. Available in 1/8 through 5/8-in. sizes, in 1/16-in. graduations, packing is suitable for pump shafts and valve stems handling corrosives. Made by **Crane Packing Co.**, Dept. NDC, 1800 Cuyler Ave., Chicago 13, Ill.

▲ For more details circle NED-948 D5 on enclosed inquiry slip ▲

RUST-PREVENTING ADDITIVE
for closed water hydraulic systems

Hydrolubric lubricating and rust preventing additive for use in closed water hydraulic systems will provide lubrication throughout the entire hydraulic system. It prevents rust and pitting of metal surfaces, helps reduce wear as well as power and water loss, and increases packing life. It aids pump and valve performance and assures smooth operation of equipment. Developed by **E. F. Houghton & Co.**, 305 W. Lehigh Ave., Philadelphia 33, Pa.

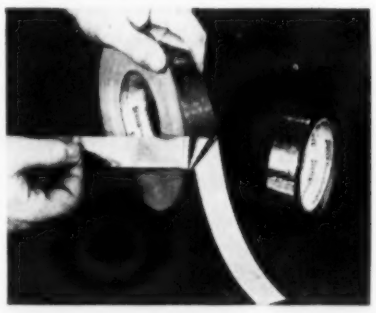
▲ For more details circle NED-949 D5 on enclosed inquiry slip ▲

SOUND BARRIER CURTAINS
retractable type are flame-resistive

Plant areas that are a high source of noise or are potential fire hazards can be isolated by means of Trans-Wall lightweight, retractable sound barrier curtains. Flame-resistive and sound-reflecting material known as Bemisorb, a specially treated and coated burlap, is used to make curtains. High noise areas can be isolated without permanently partitioning off whole sections of a plant. Curtains consist of 7-in. panel folds, chain-spaced to prevent complete extension, and supported by steel top plates that operate on nylon wheels in an enclosed track. They are made in several decorator colors by **Bemis Bro. Bag Co.**, Physical Research Dept., 325-N 27th Ave. N.E., Minneapolis 18, Minn.

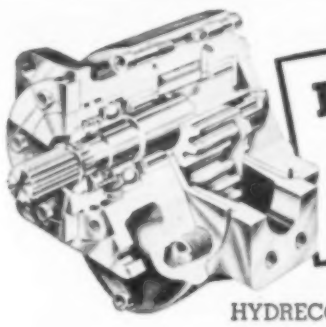
▲ For more details circle NED-950 D5 on enclosed inquiry slip ▲

"SILVER" FILM TAPE
for marking, labeling, decorating



Possessing 25 - lb tensile strength per inch of width, 100 per cent elongation and 40 oz of adhesion per inch of width, No. 850 and 852 pressure sensitive film tapes can be used for industrial marking, labeling and decorating. Polished silver appearance is achieved by vapor-depositing aluminum between the adhesive and backing. No. 852 tape is printable. Both resist acids, alkalies, ketones, hydrocarbons, esters and other common solvents, as well as all weather conditions. Flexibility is retained at low temperatures. They have high dimensional stability despite heat and humidity changes. Neither will crack, chip or peel. Widths from 1/4 to 23 in. are available on 72-yd rolls. Made by **Minnesota Mining & Mfg. Co.**, Dept. NED, 900 Fauquier St., St. Paul 6, Minn.

▲ For more details circle NED-951 D5 on enclosed inquiry slip ▲



HYDRECO Oil Power HYDRAULIC PUMPS ARE DIFFERENT!

HYDRECO Series H Hydraulic Pumps for operation of 1500 psi systems deliver 40, 50, 60 or 70 gpm at 1200 rpm.

HYDRECO Hydraulic Pumps are engineered to survive in applications where other, ordinary pumps fail. HYDRECO Pumps are found *operating* wherever the going is rough . . . whenever shock loads, impact and rugged service are "normal working conditions." No other Gear-Type Pump offers these advantages . . . HYDRECO's exclusive *Pressure-Balanced, Four-Bolt Design* and *Hevi-Duty Construction* . . . low initial cost, years of economical, trouble-free operation and dependable, efficient performance.

Your Free copy of Bulletin No. 142 covers the details of HYDRECO Series H Pumps . . . Write for it!

HYDRECO DIVISION
THE NEW YORK AIR BRAKE COMPANY

1108 EAST 222nd STREET • CLEVELAND 17 • OHIO
INTERNATIONAL SALES OFFICE, 90 WEST ST., NEW YORK 6, N. Y.

▲ For more details circle NED-952 D5 on enclosed inquiry slip ▲

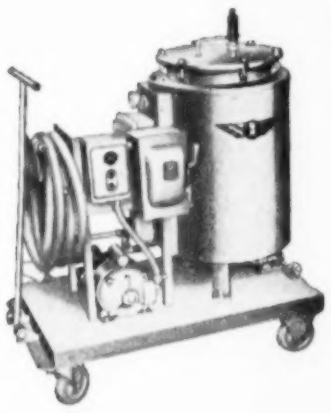
clean oils... are safe oils

new portable HOFFMAN filter

protects machinery

. . . anywhere

in your plant



Check oil contamination with this free-moving, single operator HOFFMAN PORTABLE CARTRIDGE FILTER. Hooks into the oil system without interrupting operation for a fast, thorough filtering job.

On hydraulic systems the HOFFMAN PORTABLE CARTRIDGE FILTER removes acids, gums, resins, sludge, dirt and other insolubles . . . on quench oil it is ideal for trapping out scale and sludge-causing oxidation by-products . . . lubricating oils are freed of all solids whose abrasive action might damage valves, pistons, cylinder walls or other engine parts.

Built in 30 and 60 GPH capacities with repackable or throw-away cartridges—especially useful on machines that do not warrant individual, continuous filtration. Send for Bulletin A-916, and consult HOFFMAN'S Filtration Engineers about your maintenance problem.

Also write for these bulletins on other HOFFMAN FILTERS—industry's most complete line of filtration equipment:

DISC FILTERS—Small space units to remove impurities down to 5 microns. Bulletin A-669.

CARTRIDGE FILTERS—For full flow, by-pass or intermittent filtration of oils. Bulletin A-888, A-649.

OIL CONDITIONERS—For continuous removal of soluble and insoluble contaminants. Bulletin A-667.

PRESSURE FILTERS—For fine filtration of solvents, oil coolants and industrial waters. Bulletin A-735.

FLOTATION COOLANT CLARIFIERS—For automatic clarification of soluble oil coolants. Bulletin A-690.

MAGNETIC SEPARATORS—For removal of ferrous material from cutting oils and water soluble coolants. Bulletin A-860.

VACUUM FILTERS—For continuous filtration of individual machine tool coolants. Bulletin A-943.

INDUSTRIAL FILTRATION DIVISION
U.S. HOFFMAN MACHINERY CORP.

DEPT. N.E.D. • 105 FOURTH AVENUE • NEW YORK 3, N. Y.

▲ For more details circle NED-953 D5 on enclosed inquiry slip ▲

Have You Considered Using

PAPER CONE SHAPES?

PAPER CAN SAVE YOU MONEY!

- SIZES: 1" to 30" lengths.
- TAPERS: 45" to 44°.
- TOPS: Straight, round, open, closed.
- FINISHES: Smooth, rough, ground, flocked.

PRECISION PAPER PRODUCTS SINCE 1899

Cones may be impregnated for strength, toughness and waterproofed. They can also be perforated, printed, lacquer tipped, scored, notched, covered with novelty wraps. Also supplied in various solid colored stock. We make cone shaped containers adaptable for protective packaging, novelties, horns, etc.

Our engineers will consider any problem.

SONOCO PRODUCTS COMPANY
MAIN OFFICE—HARTSVILLE, S. C.
MYSTIC, CONN. LOS ANGELES, CAL. BRANTFORD, ONT. LOWELL, MASS. PHILADELPHIA, PA. AKRON, IND. GARWOOD, N.J. GRANBY, QUEBEC
MEXICO: Sonoco de México, S. A., Apartado 10239, México, D. F.
DEPENDABLE SOURCE OF SUPPLY

▲ For more details circle NED-954 D5 on enclosed inquiry slip ▲

"SHADE"
Remarkable Vinylite Sheeting that ABSORBS Heat and Glare

The unfiltered rays of the sun, even on a cloudy day, can be a major cause of fatigue. SHADE is a specially formulated compound to filter light!

NO MORE PAINTING
No need for repeated painting of glass surfaces: with SHADE you have an easily applied filter, bonded to the glass. It won't crack or grow brittle.

EASY TO APPLY
Application requires no special skill or tools. It is precut at the factory. Wet, place polished side to glass, squeegee out excess water.

PERMANENT
Following out this procedure will effect a permanent bond. SHADE will never come off until you pry up a corner and strip it off yourself.

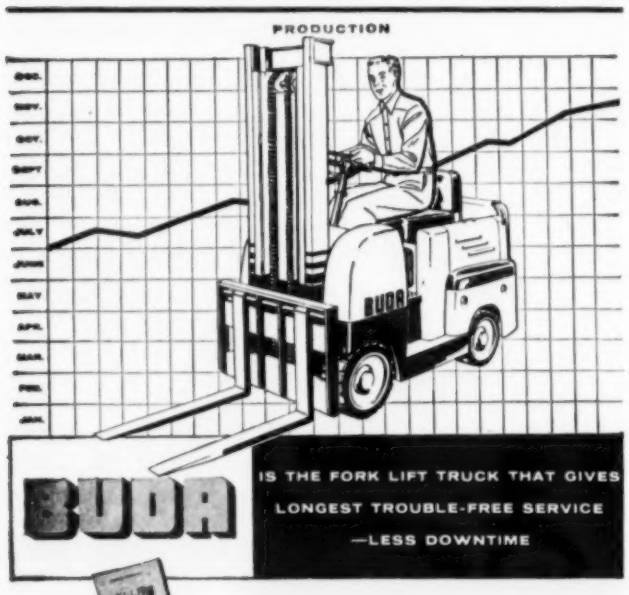
WASHABLE
Can be washed like regular glass. If you wish to remove it, a quick washing in warm water will restore its adhesiveness.

COLOR CHOICES
Colors are available in FROSTED TRANSLUCENT, ARCHITECTURAL BLUE, TRANSPARENT BLUE, FILTERED WHITE, OLIVE GREEN, TRANSLUCENT GREEN and BLACK-OUT BLACK.

SHADE will never become brittle or crack even in temperatures from −25 to 150 F. All you need is a squeegee, a bucket of water, and some pieces of factory pre-cut SHADE to eliminate glare and heat. Easy to apply, permanent and washable, SHADE is custom cut to fit your windows—Order yours today!

TRANSEAL, Ltd.
Dept. NED, 100 Oak Tree Ave., South Plainfield, N. J.
Telephone PLainfield 6-3800

▲ For more details circle NED-955 D5 on enclosed inquiry slip ▲



BUDA IS THE FORK LIFT TRUCK THAT GIVES LONGEST TROUBLE-FREE SERVICE —LESS DOWNTIME

Put yourself in the driver's seat with this FREE facts book. Write for your copy today!

Buda Lift Truck—toughest in the field! Made to give you more trouble-free service than any other lift truck. Takes just 22 seconds to strip for service, 22 minutes to strip for overhaul, a 30 minute clutch change. What's more . . . all parts for Buda lift trucks are 85% interchangeable. See your Buda distributor!

THE BUDA DIVISION
Allis-Chalmers Manufacturing Company
Harvey, Illinois

▲ For more details circle NED-956 D5 on enclosed inquiry slip ▲

New Literature & Catalogs

Instrument Tubing Supports

P-W Industries, Inc.—Tubetrof is a system for supporting runs of instrument tubing. Standard 5, 10, 12 and 16-ft sections are joined with positive connectors and completely fabricated box girders for long runs. Details of trough, covers, connectors and fittings are contained in 8-page bulletin 1254-D.

▲ For more details circle NED-957 D5 on enclosed inquiry slip ▲

Eddy-Current Brakes

Eaton Mfg. Co., Dynamatic Div.—12-page illustrated bulletin BR1 contains design, performance and application information on Dynamatic eddy-current brakes. These dynamic brakes accommodate wide speed range, and afford shock-free operation, rapid response, accurate control and effective cooling. Liquid and air cooled types are available for speeds to 2000 rpm and capacities of 40-1000 hp and 1½ to 30 hp.

▲ For more details circle NED-958 D5 on enclosed inquiry slip ▲

Pumps & Circulating Equipment

Gray Co.—Illustrated catalog 452 gives details on Powerflo pumps, circulating systems and equipment designed to spray or exude liquids, semiliquids and semisolids used in production, construction and maintenance. These air-operated pumps handle adhesives, sealants, sound deadeners, waterproofing, insulation and other materials.

▲ For more details circle NED-959 D5 on enclosed inquiry slip ▲

Liquid Metering Methods

Rockwell Mfg. Co., Meter & Valve Div.—Methods of industrial liquid metering with multistage quantity control valves are detailed in 6-page illustrated folder O.G. 454. Meters, valves, registers and other equipment for this service are described. Valves are available in iron, steel, stainless and bronze.

▲ For more details circle NED-960 D5 on enclosed inquiry slip ▲

Cutting Tools

Crobalt, Inc.—12-page illustrated catalog 55 lists data on solid square, rectangular and round tool bits; solid cutoff blades; tipped tool bits; inserts for vertical tool holders; and special inserted-tooth milling, boring and reaming blades. Advantages offered by these cast alloy tools are explained.

▲ For more details circle NED-961 D5 on enclosed inquiry slip ▲

Pilot Lights

Industrial Devices, Inc.—Omni-Glow series 1000 pilot lights for industrial applications are described in 8-page illustrated catalog OG-A. Lights employ neon lamps which operate on fraction of a watt. Various types of lenses are offered to suit every need. Operating life is 10,000 to 25,000 hours.

▲ For more details circle NED-962 D5 on enclosed inquiry slip ▲

High-Current Test Instruments

Multi-Amp Corp.—Set of four sheets comprises series 55 data on portable high-current test units for safely testing and calibrating electrically actuated protective devices.

▲ For more details circle NED-963 D5 on enclosed inquiry slip ▲

Power Industrial Truck

Elwell-Parker Electric Co.—Condensed data on complete line of power industrial trucks are presented in 8-page illustrated catalog 527. Included are sections on Elpar fork, high and low-lift platform and crane trucks. Specifications are given on all models with capacities up to 70,000 lb.

▲ For more details circle NED-964 D5 on enclosed inquiry slip ▲

Electronic Metal Detector

Allis-Chalmers Mfg. Co.—"Allis-Chalmers Electronic Metal Detector" is title of illustrated 4-page bulletin 15B7217B. This device provides means for positive electronic inspection of plastics, food, confectionery, glass, ceramics and similar products by detecting presence of metal in products as they pass through unit on conveyor.

▲ For more details circle NED-965 D5 on enclosed inquiry slip ▲

Aluminum Castings

Wayne Aluminum Foundry & Machine Co.—"Aluminum Castings P.D.Q." is an 8-page illustrated brochure that describes case histories of castings produced to exacting customer specifications. Also detailed are facilities and services available for the production and machining of nonferrous castings.

▲ For more details circle NED-966 D5 on enclosed inquiry slip ▲

FREE WALL CHART
Gives recommended tool room wheel gradings

EVERY TOOL ROOM needs a copy of this new wall chart just released by THE CARBORUNDUM COMPANY. It contains recommended wheel gradings for grinding high speed tool and die steels with CARBORUNDUM's popular new V40 Bond Tool Room Wheels. The various standard types of V40 Bond Wheels are illustrated and identified for easy reference. Classes of work, including the sharpening and backing off of broaches, sharpening of milling cutters and reamers, surface grinding operations, use of wheels on flat forms, for slotting, and on circular form tools, are all given in detail. The type of V40 Bond Wheel and grading best suited to each operation is clearly defined.

TOOL ROOM FOREMEN will find this new chart a handy and convenient help in ordering and using V40 Bond Wheels. It's colorful, printed on sturdy, heavy-weight cardboard, and punched at the top for hanging on a nail or hook.

ADVANTAGES claimed for the new line of V40 Bond Wheels include faster cutting and exceptionally cool grinding—even on high speed steels and hi-vanadium types. In addition, the wheels have outstanding form-holding ability, which permits completing a job with only one set-up... eliminates stops for wheel dressing and resetting-up halfway through a job.

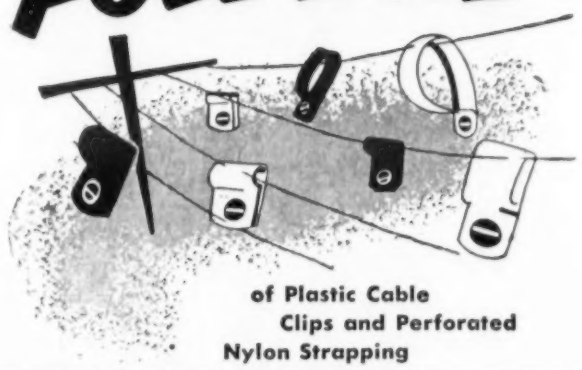
GET YOUR FREE WALL CHART today, and use V40 Bond Tool Room Wheels in all your tool room grinding operations. Use the inquiry card provided by this publication, or if you prefer, write **The Carborundum Company,** Dept. NED 81-59, Niagara Falls, New York. Adv.

"Carborundum" is a registered trademark of The Carborundum Company, Niagara Falls, New York

81-59

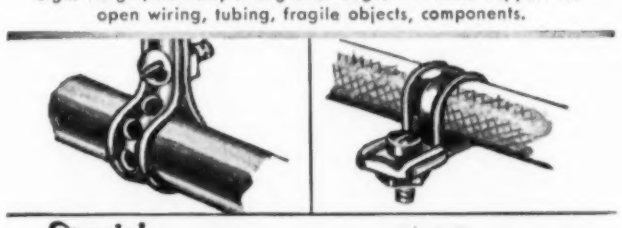
▲ For more details circle NED-967 D5 on enclosed inquiry slip ▲

FULL LINE



of Plastic Cable Clips and Perforated Nylon Strapping

Light weight, flexible, strong and tough. The ideal support for open wiring, tubing, fragile objects, components.



Special
Non-corrosive Nylon Screws and Nuts now available.

Write today for samples and our new lower prices on many items.

WECKESSER CO.
5251 N. Avondale Avenue • Chicago 30, Illinois

▲ For more details circle NED-968 D5 on enclosed inquiry slip ▲

IS YOUR OVEN OPERATION STEALING PROFITS?

It is well known that inefficient or obsolete oven equipment can only produce increased cost and decreased efficiency.

That's why, every day in every industry, economy-minded manufacturers are utilizing the patented construction features of Jensen PAN-L-HEAT for their baking, drying, curing, and pre-heating operations.

These Exclusive Features Mean a Savings in Time, Cost, Labor.

- SAFE-T-WALL CONSTRUCTION
- ZONED HEAT CONTROL
- BALANCED THERMO DESIGN
- STANDARD "EXPANDABLE" HEATER PANELS

Wouldn't it be wise to know more about these and many other Jensen PAN-L-HEAT features? To have a representative call or for Jensen's free informative brochure, write today.

Jensen SPECIALTIES, INC.
9354 Freeland, Detroit 28, Michigan

▲ For more details circle NED-969 D5 on enclosed inquiry slip ▲

VHS PUMP MOTOR 3-200 HP

Dimension Data, NEMA Frame 203-587

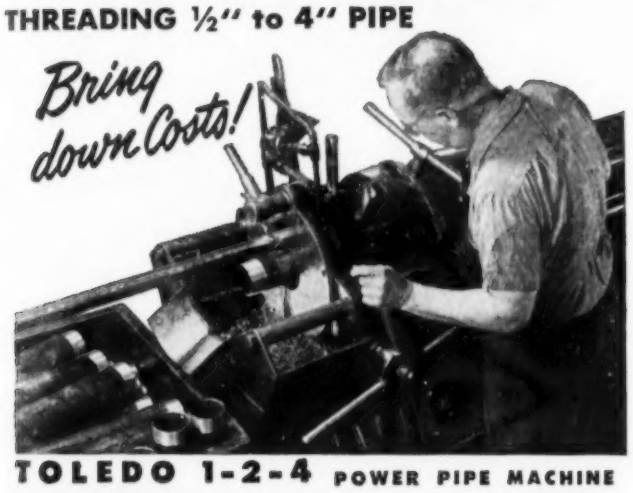
New technical data sheets provide diagrams and dimensions for *ACEC Vertical Hollow Shaft Pump Motors,* which are designed for deep well irrigation and industrial pumping application. The motor has an extra large canopy protecting ventilation opening. Unusually large oil reservoirs supply precooled oil for lubrication. Centrifugal fan ventilates the entire motor. Glyptal coated FORMACEC windings withstand both moist and arid atmospheres. Heavy duty thrust bearing completely protected from extraneous matter. Motors equipped with pin type standard reverse protection clutch or optional fitting of ball type non-reverse ratchet. Data sheets and distributor list available from ACEC Electric Corporation, Dept. A, 40 East 49 Street, New York 17, N. Y.

Advt.

▲ For more details circle **NED-970 D5** on enclosed inquiry slip ▲

Step up SPEED

THREADING ½" to 4" PIPE



TOLEDO 1-2-4 POWER PIPE MACHINE

makes the job Easier!

★ *Threads 2" pipe in 18 seconds,* 3" in 30, 4" in 42.

★ *Cuts off 4" pipe in 9 seconds* with 4 high speed steel cutter knives, scroll fed.

★ *Instant size change . . .* separate quick-opening die head for each size pipe.

★ *High production . . .* performance proved! Order through your supply house.

TOLEDO

Builder of World's Finest

PIPE TOOLS . . .
PIPE WRENCHES . . .
POWER DRIVES . . .
POWER PIPE MACHINES

Toledo Pipe Threading Machine Co.
Toledo, Ohio

▲ For more details circle **NED-971 D5** on enclosed inquiry slip ▲

FERRO FILTER®

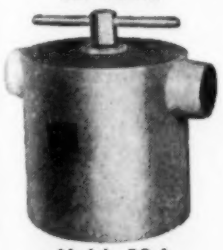
Permanent Magnet Separators

REMOVE FERROUS PARTICLES

Models PQ-3 and smaller

from Hydraulic Fluids

They reduce sticking and nonfunctioning of valves, pistons, pumps. You'll have fewer shutdowns.



Models PQ-4 and larger

from Lubricating Oil

They save wear on bearings, gears and other surfaces subject to wear. You'll have less maintenance.

from Coolants

They save wear on tools, help increase production between grinds. And you'll get finer finishes.

Send for BULLETIN PM-56

S. G. FRANTZ CO., Inc.

P. O. Box 1138 Trenton 6, N. J.

▲ For more details circle **NED-972 D5** on enclosed inquiry slip ▲

New Processes & Materials

PIPE DRIP PREVENTER

readily applied directly to pipe

Condensation drip from cold water pipes is effectively stopped with improved NO - Drip Tape plastic pipe covering. It forms a moisture barrier which will resist water absorption under extreme variations of temperature and humidity. This self-adhering tape is applied snugly and evenly without seams. Joints, valves and fittings are covered easily. Actual installation is accomplished by hand-wrapping the tape spirally around any size pipe or tube. It is brown, but can be painted any color with water emulsion paints. Made by **J. W. Mortell Co.,** 526 Burch St., Kankakee, Ill.

▲ For more details circle **NED-973 D5** on enclosed inquiry slip ▲

HIGH-STRENGTH WIRE ROPE

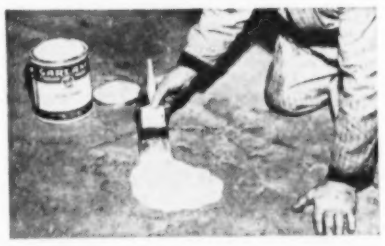
sizes range from ¼ to 3½ in.

Having 15 per cent greater strength than strongest grades marketed heretofore, high-strength wire rope also has higher resistance to wear and abrasion. Obtainable in sizes ranging from ¼ to 3½ in., ropes are particularly suitable for use by such industries as construction, oil, logging mining, manufacturing and marine. Made by **John A. Roebling's Sons Corp.,** Dept. N, 640 S. Broad St., Trenton 2, N. J.

▲ For more details circle **NED-974 D5** on enclosed inquiry slip ▲

BOND FOR CONCRETE

joins cement to any firm surface



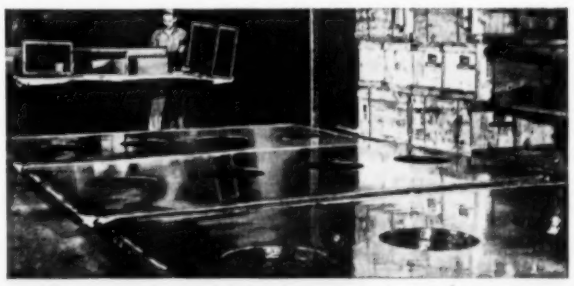
Applied with a brush, Inlaycrete Bond liquid plastic permanently bonds concrete to concrete, concrete to iron, steel, brick, stone, glass, or to any firm surface. Roughing of old floors is not necessary, and surface is ready for retopping 30 minutes after plastic is brushed on. Concrete, cold mastic or magnesite can be applied over the bond. It doesn't age, will stay elastic and withstands repeated hammering. Plastic can also be used to patch holes in concrete, resurface worn steps, driveways or curbing and to restore buildings. Made by **Garland Co.,** Dept. ND-3, 3748 E. 91st St., Cleveland 5, O.

▲ For more details circle **NED-975 D5** on enclosed inquiry slip ▲

NEOPRENE LINING COMPOUND

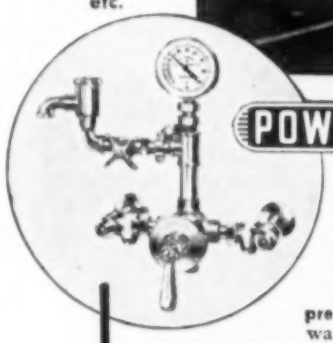
for fume ducts, process vessels

Excellent flow qualities of Pennsalt NeoLine neoprene lining compound facilitates its application by brush, roller, spray or dip methods on irregular as well as plane surfaces. Intended for coating fan blades, fume ducts, process vessels, pump impellers, valves and piping, product cures completely to a live, resilient vulcanized coating. It can be used on metal, concrete or wood and resists wide range of corrosives up to 200° F. Product can be heat or air cured and has a long storage life. Photo shows NeoLine being applied to ducts in plating shop. Developed by **Pennsylvania Salt Mfg. Co.,** 932 Widener Bldg., Philadelphia 7, Pa.



▲ For more details circle **NED-976 D5** on enclosed inquiry slip ▲

Most ACCURATE Water Temperature Control Made for Industrial Processes Color Photo Film Processing, Lens Polishing Hydrotherapy, etc.



POWERS THERMOSTATIC WATER MIXER

Supply Fixture 4629PD, used above by AUTHENTICOLOR Laboratories, N.Y. City, thermostatically mixes hot and cold water and delivers the mixture at any constant temperature desired—regardless of pressure or temperature changes in water supply lines. Failure of cold water instantly and completely shuts off the delivery.

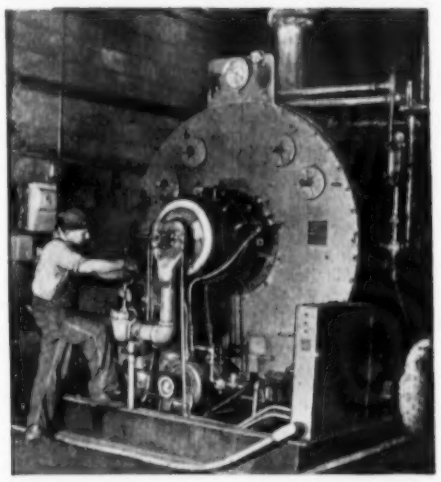
Has 4" Easy to Read Dial Thermometer, stop check valves with removable strainers, vacuum breaker, ½" pipe connections, and is completely chrome plated. **Capacity:** 10 gals. per min. at 45 psi. **Temperature Ranges** 65-115° F.; 60-125° F.; and 75-175° F. *Write for Bulletin 367.*

(b56) **Large Capacities** up to 1000 gpm available in other types of controls. Write for Catalog WC.

THE POWERS REGULATOR CO., SKOKIE, ILL.
Offices in over 50 Cities, see your Phone Book • Established in 1891

▲ For more details circle **NED-977 D5** on enclosed inquiry slip ▲

Steam Costs Go DOWN where *Powermasters* Go In



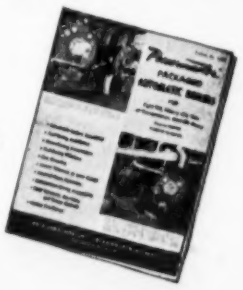
For Example:

A Mid-West meat packing plant added this 250 hp. gas-fired *Powermaster* Packaged Automatic Boiler in its boiler room after experiencing complete satisfaction with a 150 hp. *Powermaster* for several years. From their simplified installation to their long, dependable performance, *Powermasters* really save you money. High fuel economy at all loads, time-saving attention, maintenance-saving accessibility, automatic operating and safety controls, smokeless combustion and hospital-clean operation are a few of the many cost-saving advantages you get with *Powermaster* units.

Have You Checked Your Steam Costs Lately?

Many kinds of industrial plants, food processors, schools, institutions, public buildings, laundries, housing projects and utilities are also enjoying the cost-saving advantages of *Powermaster* boilers.

Get this NEW Bulletin that will enable you to compare *Powermaster's* cost-saving features with any other boiler. Get this proof that *Powermaster* is your best buy.



O&S *Powermaster*®

PACKAGED AUTOMATIC BOILERS

Sizes to 500 HP; pressures to 250 psi.

ORR & SEMBOWER, INC.

Morgantown Road, Reading, Pa.

▲ For more details circle **NED-978 D5** on enclosed inquiry slip ▲

Remove Oily and Greasy Dirt

Faster

with New

Brulin

Brulinsolv

A Concentrated Solvent Emulsion Cleaner

- **Brulinsolv is faster-acting** — Cleaning time can be cut when mixed with low cost solvents.
- **Brulinsolv is economical** — Supplied as a concentrate, a little goes a long way.

and NOW . . .

- Brulinsolv has a pleasant odor—that your operators, mechanics and customers will appreciate.

Write today for more information.

BRULIN & COMPANY, INC.
2944 Columbia Avenue · Indianapolis 7, Indiana
1794 12th Street · Oakland 7, California

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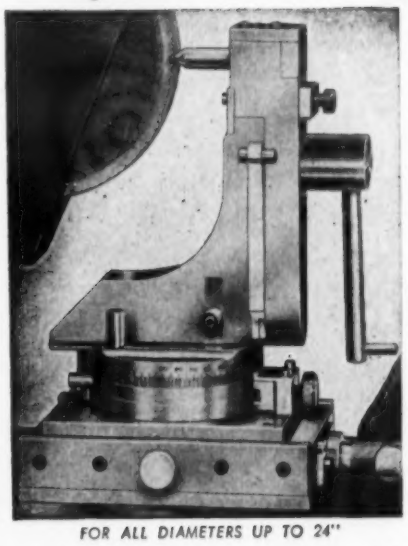
Fluidmotion **WHEEL DRESSER for *FAST* RADII and ANGLE WORK of HIGHEST PRECISION**



FOR ALL DIAMETERS UP TO 24"

Fluidmotion Wheel Dressers make precision wheel dressing very simple. Complicated concave or convex work is done in a matter of minutes. For example you can set up two angles and a radius within 2 minutes. You can dress 2 angles tangent to a radius in one continuous motion.

THE ONLY DRESSER WITH MICROMETER FEED

J & S TOOL CO., INC.
652 W. Mt. Pleasant Ave.
Livingston, New Jersey

Write for Catalog F-53 Showing 6 models and applications

▲ For more details circle **NED-980 D5** on enclosed inquiry slip ▲

NEW! A guide to the selection and application of Superior Tubing

This brand-new 8-page booklet was designed to help you select the proper SUPERIOR tubing for your use. It gives you at a quick glance the uses, advantages and normal production limits of all the standard ferrous and nonferrous alloys which SUPERIOR produces.

SUPERIOR makes a wide range of alloys available in tube form —over 55 analyses in carbon, alloy and stainless steels; nickel and nickel alloys; beryllium copper, titanium, glass sealing alloys. You can get all analyses in .010" to 5/8" O.D. and certain analyses in light walls up to 2½" O.D.

Use the convenient coupon below or check the return card for your free copy of this helpful, informative 8-page booklet.

SUPERIOR TUBE COMPANY
2018 Germantown Avenue
Norristown, Pa.

Please send me at once a free copy of Bulletin 40 — A Guide to the Selection and Application of SUPERIOR Tubing.

Name.....Title.....
Company.....
Street.....
City.....Zone....State.....

▲ For more details circle **NED-981 D5** on enclosed inquiry slip ▲

New Literature & Catalogs

Face Milling Cutters

Lovejoy Tool Co.—Interchangeability of blades is a feature of type A, H, J, L and C face milling cutters, offered in tooth spacing and blade capacity for all conditions, and described in illustrated 44-page catalog No. 31. Blade, shoe and wedge positive-locking principle employs round holes in the housing. Specifications, applications and catalog number of each type is given.

▲ For more details circle **NED-982 D5** on enclosed inquiry slip ▲

Pressure-Sensitive Tape

Minnesota Mining & Mfg. Co.—Many ways in which pressure-sensitive tapes serve the metal working industry are shown in 52-page manual. It contains 311 photos showing how 47 of over 300 available Scotch pressure-sensitive tapes can be used. Among uses are machining and finishing, electroplating, stamping, welding, assembly, painting, product promotion, packaging, maintenance and shipping. Sections are devoted to office uses and dispensing equipment.

▲ For more details circle **NED-983 D5** on enclosed inquiry slip ▲

Vibrating Screens

Link-Belt Co.—Vibrating screens for all medium and heavy duty screening operations, including scalping, sizing, dewatering and rinsing, are covered in 12-page illustrated brochure 2554. Vibration amplitude is adjustable to handle a wide range of materials from sticky ores to soft, dry feeds. Engineering information, including a capacity chart, aids in selection of proper screen unit.

▲ For more details circle **NED-984 D5** on enclosed inquiry slip ▲

Shipment Addressing & Marking

Weber Addressing Machine Co.—File folder kit of descriptive literature on various systems for modernizing shipment addressing and marking operations contains product samples for trial. Covered are addressing or marking directly on containers, shipping labels and addressing or marking tags.

▲ For more details circle **NED-985 D5** on enclosed inquiry slip ▲

Mechanical Shaft Seals

Sealol Corp. — Latest methods for sealing all types of rotating shafts in the chemical, petroleum and marine fields are described in 12-page bulletin 10. Sealol-Flexibox seals work on balanced pressure principle where low face-contact pressures in seal are resiliently maintained by spring drive. Five designs handle pressures to 1000 psi, temperatures to 450° F and shaft speeds in excess of 3600 rpm.

▲ For more details circle **NED-986 D5** on enclosed inquiry slip ▲

High Pressure Hydraulic Tools

Manco Mfg. Co.—Four sections of tab-indexed plastic-bound catalog 155 present detailed information on Manco Guillotine high pressure hydraulic tools for cutting, shearing, riveting and punching. Models with wide range of capacities are covered. Descriptions and specifications for hydraulic pumps and valve controls are also given. All equipment is illustrated.

▲ For more details circle **NED-987 D5** on enclosed inquiry slip ▲

Universal Joints

Gear Grinding Machine Co., Joint Div.—Constant Velocity principle on which Rzeppa universal joints are designed is described and illustrated in 12-page catalog No. 2. Design reportedly provides maximum uniform flow of power, capacity and length of life. Catalog covers applications, engineering data, models and sizes, and proper joint selection. Disk and bell joints are types available.

▲ For more details circle **NED-988 D5** on enclosed inquiry slip ▲

Flexible Piping Joints

Barco Mfg. Co.—"Barco Joints in Steel Mills" is self-explanatory title of 4-page bulletin which cites case histories of various piping problems involving flexible lines. Ask for bulletin No. 27.

▲ For more details circle **NED-989 D5** on enclosed inquiry slip ▲

Bench Grinders & Arbors

Poly Products Co.—Construction and applications of grinders and arbors which employ ball bearing mandrels are covered by 8-page illustrated bulletin "Poly Products." Sealed ball bearings are lubricated for life. Grinders and arbors are designed for light duty grinding and polishing. Arbors are designed for grinding, saws, shapers, laps and abrasive disk use.

▲ For more details circle **NED-990 D5** on enclosed inquiry slip ▲

TURN PIPE DREAMS INTO PIPE BENDS

Pipe, tube and structural bending is now simplified with a PEDRICK PRODUCTION BENDER. Heretofore difficult bends, such as offsets and off-plane bends, can now be made in production quantities at an amazingly low cost. ALL PEDRICK PRODUCTION BENDERS are complete with motor, and are equipped with automatic duplicate bending relays.

Write For Descriptive Folder Dept. 6

Prices start as low as $1575.00

(Motor and all Electrical Equipment included)

PEDRICK TOOL & MACHINE CO.
3640 N. Lawrence St. Philadelphia 40, Pa.

▲ For more details circle **NED-991 D5** on enclosed inquiry slip ▲

Who's got my Silicon 70?

Any man in the shop may have it, Charlie! If work-saving Brightboy Silicon 70 and the other multi-use textures everybody wants are not in your toolroom, your dealer can deliver them pronto.

Rubber and abrasive in Brightboy work simultaneously to BURR, CLEAN, FINISH, POLISH, in one operation—frequently save 50% in time!

Brightboy is available in both ALUMINUM OXIDE and SILICON CARBIDE GRAINS. Each *uniform* texture comes in grain sizes from extra coarse to extra fine, in soft, firm or tough rubber binders.

Ask your dealer for the NEW BRIGHTBOY CATALOG.

Write us if he cannot supply you—and on any problem where finishing is involved.

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 North 13th Street,
Newark 7, N. J.

America's Pioneer Manufacturer of Rubber-Bonded Abrasives

WELDON ROBERTS **Brightboy** RUBBER CUSHIONED ABRASIVES

▲ For more details circle **NED-992 D5** on enclosed inquiry slip ▲

ANSWERS TO YOUR PUMP PROBLEMS •

These New TUTHILL Catalogs Give You Complete Data on Pumps for LUBRICATION, HYDRAULIC, COOLANT, TRANSFER and BURNING OILS Service.

CATALOG 101— (Model L Series) Mechanically-sealed pumps in capacities from ½ to 8 g.p.m. and pressures to 600 p.s.i.

CATALOG 102— (Model C Series) General purpose pumps in capacities from 2 to 200 g.p.m. and pressures to 100 p.s.i.

CATALOG 103— (Model CK Series) High pressure pumps in capacities from 5 to 200 g.p.m. and pressures to 400 p.s.i.

CATALOG 104— (Model M Series) Coolant pumps with automatic internal by-pass. Capacities from 2 to 50 g.p.m. and pressures to 15 p.s.i.

CATALOG 105— (Model R Series) Automatic reversing pumps in capacities from ¾ to 200 g.p.m. and pressures to 100 p.s.i.

CATALOG 106— (Types S and SA) Stripped pumps for built-in applications. Capacities from ½ to 200 g.p.m. and pressures to 100 p.s.i.

CATALOG 107— (Type SU) Multiple V-belt pumping units in capacities from 2 to 50 g.p.m. and pressures to 300 p.s.i.

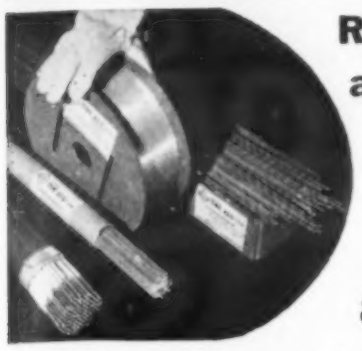
Tuthill pumps are of the rotary, internal-gear, positive displacement type.

Any one or more of these Tuthill catalogs are available on request. They include individual pump guides to help you select the Tuthill pump best-suited to your requirements. Please ask for catalogs by number.

TUTHILL PUMP COMPANY
Dependable Rotary Pumps since 1927
939 East 95th Street, Chicago 19, Illinois

Canadian Affiliate—Ingersoll Machine & Tool Co., Ltd.
Ingersoll, Ontario, Canada

▲ For more details circle **NED-993 D5** on enclosed inquiry slip ▲



Reduce costs and improve results on welding aluminum

Arcos offers you three ways to meet these important demands today.

First, the Arcos aluminum line offers a *complete selection* of coated and bare rods and electrodes in a variety of grades—also coiled, cut and spooled. Second, through rigid controls in manufacture, you're assured *weld metal of highest quality.* Third, Arcos technical service can be called upon at any time to give you *help on the job.*

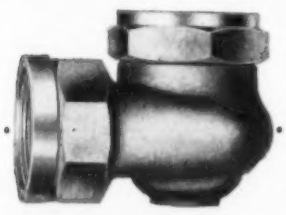
For a good start, write today for this Application Chart of Arcos Aluminum Welding Rods and Electrodes.

Application Chart of ARCOS Aluminum Welding Rods and Electrodes.

ARCOS CORPORATION
1500 South 50th Street, Philadelphia 43, Pa.

▲ For more details circle **NED-994 D5** on enclosed inquiry slip ▲

SPRAYING SYSTEMS CO.



for lower cost

and better performance

SPRAY NOZZLES

Modern design. Precision machining. All materials. Thousands of standard industrial spray nozzle types and sizes to choose from. Years of proved experience at your service.

write for this great new catalog today

Ask for our new 48 page Catalog No. 24 . . . the most comprehensive spray nozzle catalog ever produced. Yours for the asking.

SPRAYING SYSTEMS CO.
3211 Randolph Street • Bellwood, Illinois

▲ For more details circle **NED-995 D5** on enclosed inquiry slip ▲

WHEN LIGHTS GO OUT EXIDE® LIGHTGUARDS® GO ON INSTANTLY...AUTOMATICALLY!

NEW MODEL M

Whenever normal lighting is interrupted—no matter what the reason—you get adequate emergency lighting INSTANTLY. Your customers and employees are safeguarded against injuries; property damage, pilferage, loss of process control is minimized. Exide Lightguards are UL-approved and can be plugged in anywhere. Operates instantly—each lamp illuminates up to 10,000 sq. ft. Exide battery in one lamp unit provides power for more than 8 hours of continuous lighting. Once normal power is restored, automatic controls recharge the dependable, long-life, trouble-free Exide battery.

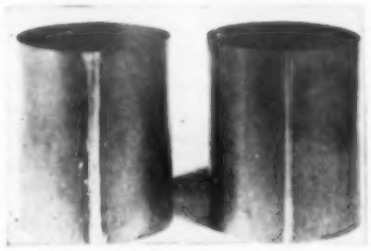
WRITE for facts on why Exide Lightguards guarantee more protection for every dollar you invest in such equipment.

Exide INDUSTRIAL DIVISION,
The Electric Storage Battery Co., Philadelphia 2, Pa.

▲ For more details circle **NED-996 D5** on enclosed inquiry slip ▲

New Processes & Materials

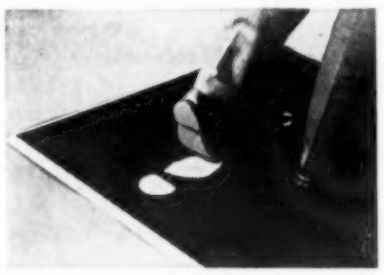
SOLDERING FLUX
noncorrosive and concentrated



Mayolyte, a concentrated soldering flux, has good tinning and scavenging action and gives fluidity to solder with a minimum of sputtering. Concentrated to nearly 50 per cent salts, flux has a nominal residue which is highly soluble in water, thereby removing the cause of corrosion to base metal and metallic bond. Use can be on all common metals, including copper, brass, steel, galvanized, stainless steel and Monel. Flux can be carried on top of a metal bath for dip soldering, and can be used with soldering iron, torch or induction heat. Made by **Farrelloy Co.**, 1246 N. 26th St., Philadelphia 21, Pa.

▲ For more details circle **NED-997 D5** on enclosed inquiry slip ▲

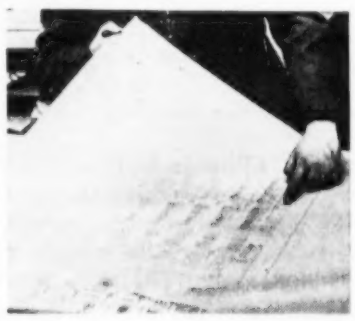
DUST REMOVING FLOOR MAT
cleans shoes, casters or wheels



Every trace of dust or dirt is reported to be picked up and retained by this Clean - Tread mat. Used to safeguard areas from dangerous dust or dirt, mat is produced by pouring a special compound in a 4-ft x 4-ft x ¾-in. form, as illustrated. When shoes, wheels, casters or any other surface comes in contact with the compound, dust and dirt adhere to the tacky surface. It can be installed easily inside or outside the entrances of laboratories, factories, test rooms and similar locations. Dust-removing surface is maintained by daily wiping with a warm moist cloth and once a week with a damp kerosene cloth. List price is $94. Developed by Wild & Stevens, Inc. and distributed by **Merit Paper & Chemical Corp.**, Dept. NED, Cambridge 40, Mass.

▲ For more details circle **NED-998 D5** on enclosed inquiry slip ▲

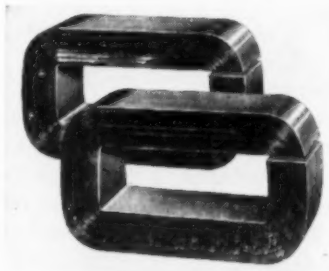
TRACING PAPER
has evenly textured surface



Film-like transparency is feature of PTM tracing paper which has an evenly textured surface and dimensional stability. Manufacturing process uses transparentizing materials and paper fused together by high temperatures, with finished product having the appearance and printing characteristics of a film. Free samples are available from manufacturer, **Frederick Post Co.**, 3650 N. Avondale Ave., Chicago 18, Ill.

▲ For more details circle **NED-999 D5** on enclosed inquiry slip ▲

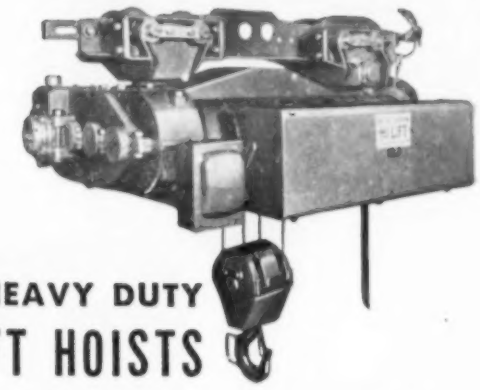
MAGNETIC CORE
for transformers, is one-piece



Used in transformers and in other electronic devices, Hyflux one-piece wound magnetic cores have only one cut made on the coner. Use of single gap results in improved magnetic performance. Cores are varnished on sides only to preserve electrical properties. Cores are made of grain-oriented silicon steel. Rigidly controlled techniques involved in their manufacture include slitting continuous strips of steel to exact width, winding them on special machines, careful annealing, varnishing the sides and cutting. Cores are magnetically tested at flux densities of 10,000, 15,000 and 17,000 gauss. Made by **Indiana Steel Products Co.**, Dept. A, Valparaiso, Ind.

▲ For more details circle **NED-1000 D5** on enclosed inquiry slip ▲

NORTHERN



NEW HEAVY DUTY HI-LIFT HOISTS

For severe, continuous service this new NORTHERN HI-LIFT ELECTRIC HOIST, in capacities from three to 15-tons, has double 4-wheel swiveled trucks for better distribution of load, to minimize wear on truck wheels and track, and other heavy duty features necessary to meet the hardest service requirements.

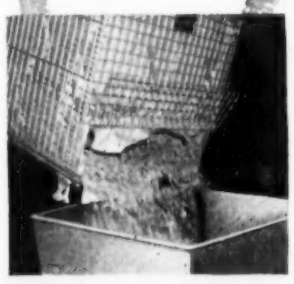
Send for Bulletin H-112

LOOK OVERHEAD — SEE NORTHERN

NORTHERN ENGINEERING WORKS
210 CHENE ST., DETROIT 7, MICH.

EH-3554

▲ For more details circle **NED-1001 D5** on enclosed inquiry slip ▲



Another Palletainer first! Equipped with dump type gate and heavy paper liner, Palletainers are proving new economies and convenience for handling loose materials.

● Interested in getting more out of your materials handling dollars? Then send today for your copy of Union Steel's big illustrated Palletainer booklet.

It will quickly and clearly indicate how you can make important savings in materials, time, space, and above all . . . man hours!

There are dozens of interestingly different applications that will show you new handling, storing, warehousing, and shipping methods. Also, detailed information on Palletainers exclusive construction features plus complete specifications on the many versatile models available.

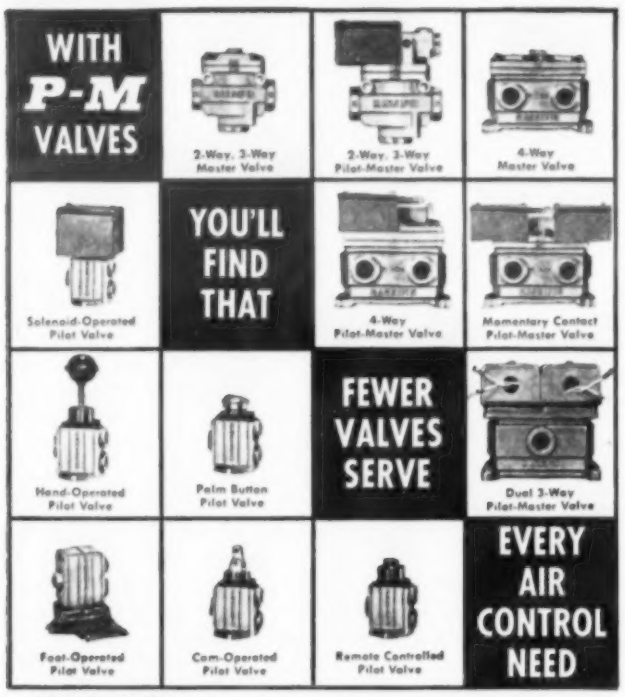
The big new USP Palletainer booklet will be sent to you immediately and without obligation. However, should your problem require immediate assistance, our nearest representative will contact at your request.

IT'S FREE

Gentlemen: Please send me my copy of your big, new USP Palletainer booklet at once.
Name_____ Title_____
Company_____
Address_____
City_____ Zone_____ State_____
Please have your nearest Palletainer representative contact_____ ☐

UNION STEEL PRODUCTS CO.
ALBION, MICH.

▲ For more details circle **NED-1002 D5** on enclosed inquiry slip ▲



ADAPTABILITY! Singly, or in combination, these valves provide 2-way, 3-way or 4-way control. Hand, foot, cam or solenoid operated. Every pipe size from ¼" through 1¼". Write for Bulletin 231.

HANNIFIN

Hannifin Corporation, 527 S. Wolf Rd., Des Plaines, Ill.
AIR AND HYDRAULIC CYLINDERS • PRESSES • AIR CONTROL VALVES
▲ For more details circle **NED-1061 D5** on enclosed inquiry slip ▲

Keep your eye on Buckeye

AND THESE COMPLETELY *NEW*

DRILLS, SCREWDRIVERS and NUTRUNNERS

Here's NEW speed and efficiency for YOUR drilling and fastening work—built right into these brand-new Buckeye B Series air tools.

Here's the greater power and capacity, once found only in bulky, heavy tools, but now neatly packaged into compact, lightweight and easy-to-handle Buckeye tools.

Here, too, are the latest advancements in air tool design, like the Buckeye Package Valve, quickly and easily removed—in a single unit—for inspection and servicing. If maintenance is indicated, just slip another valve unit in place and keep the tool on the line! And the fully controllable exhaust deflector that can be positioned anywhere in a full 360° circle to satisfy any tool operator. And the smooth, palm-fit handle, free from objectionable angles and projections, positioned for perfect tool balance.

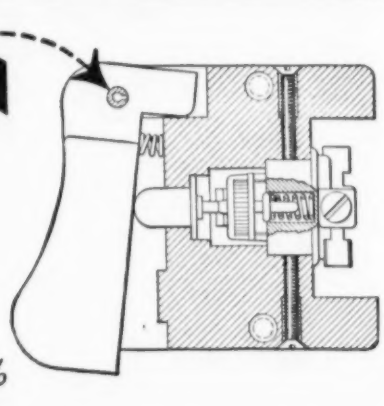
These and other features that will mean greater productivity on your work are fully described in our new Catalog G-10; your copy is ready now!

Buckeye Tools CORPORATION
DIVISION 34 • DAYTON 1, OHIO

producers of the world's first successful rotary air tools

▲ For more details circle **NED-1062 D5** on enclosed inquiry slip ▲

ROLLPIN TRADEMARK



cuts rejects on this plastic assembly 25%

If your assembly is made of plastics, check up on Rollpin. In applications like the phenolic trigger switch above, it cut production costs and actually reduced, from 25% to zero, rejections due to cracking of the plastic parts during seating of the pivot pin. Rollpin is a slotted, hollow steel spring pin with chamfered ends. Pressed into holes molded or drilled to normal production tolerances, it compresses as inserted. It makes a self-locking, vibration-proof fastener. It is light, easily removable, and reusable. Available in diameters .062, .078, .094, .125, .140, .156, .187, and up to .500 in a broad range of standard lengths.

For detailed information and help with electronic fastening problems, write Dept. R32-337.

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, N. J.

DESIGN HEADQUARTERS FOR SELF-LOCKING FASTENERS
▲ For more details circle **NED-1063 D5** on enclosed inquiry slip ▲

New Literature & Catalogs

Taps & Dies

Winter Brothers Co.—32-page manual No. 22 catalogs complete line of balanced action taps and dies for both general purpose and special applications. Taps include fluted, machine screw, chip driver, pulley, taper pipe, nut, spiral fluted and special types for cast iron, high speed steel and aluminum. Round split, square bolt and rethreading dies and die sets are also specified and priced.

▲ For more details circle **NED-1064 D5** on enclosed inquiry slip ▲

Bronze & Iron Body Valves

Fairbanks Co.—Easily-referred-to charts in 18-page manual detail the complete line of company's bronze and iron-body valves compared with valves of other leading manufacturers. Data relates to specifications, ordering and use. Major differences in construction are noted.

▲ For more details circle **NED-1065 D5** on enclosed inquiry slip ▲

Vises & Accessories

Columbian Vise & Mfg. Co. — Specifications and prices on machinists', pipe, chipping, metalworking, workshop, homeshop, woodworkers' and woodcraft vises are provided in catalog 55. Additions to catalog are the Gyro-Vise No. 72½ and model D45 workshop vise.

▲ For more details circle **NED-1066 D5** on enclosed inquiry slip ▲

Washing, Pickling, Degreasing Machines

Metalwash Machinery Corp.—Sections of catalog on Metalwash machinery cover equipment for washing, pickling, drying, phosphatizing, degreasing and tempering. Sixty-six different types of machines are illustrated along with their accessories.

▲ For more details circle **NED-1067 D5** on enclosed inquiry slip ▲

Screwdriver Selection Chart

Bridgeport Hardware Mfg. Corp.—The right size screwdriver for any job can be quickly selected using handy 22 x 17-in. wall chart. It lists 18 different sizes of wood screws from No. 0 to No. 24, in lengths from ¼ to 4 in.; 15 sizes of Phillips screws from No. 0 to 18, in lengths from ¼ to 4 in.; and 12 sizes of machine screws, eight between No. 2 and 12 shank sizes and four in diameters from ¼ through ½-in. Their lengths vary from ⅛ to 3 in.

▲ For more details circle **NED-1068 D5** on enclosed inquiry slip ▲

Utility Fans

Trane Co.—24-page bulletin DS-348U describes advantages of new belt-driven and direct-drive centrifugal fans, as well as construction and special features for specific types of applications. Fan selection data includes capacity tables for all sizes and types, roughing-in dimensions and mechanical specifications.

▲ For more details circle **NED-1069 D5** on enclosed inquiry slip ▲

Zinc Alloy Industrial Fasteners

Gries Reproducer Corp.—Line of die cast zinc alloy industrial fasteners described and illustrated in 4-page bulletin F-1 includes wing nuts and screws, cap nuts, tubular rivets and new round head thumb nuts and thumb screws. Specs and stock sizes are listed to facilitate selection.

▲ For more details circle **NED-1070 D5** on enclosed inquiry slip ▲

Steel Storage & Display Equipment

Star Steel Equipment Co. — Cabinets, shelving, counters and tables, lockers, packaged shelving and parts bins comprise steel storage and display equipment described in 32-page catalog C-RS1. Booklet shows examples of recent large installations made at several plants and institutions.

▲ For more details circle **NED-1071 D5** on enclosed inquiry slip ▲

Furnace & Oven Controls

Bristol Co.—48-page illustrated price list and specification catalog P1260 gives full information on furnace and oven control instruments and accessories. Data needed for choosing proper pyrometers and control equipment for heat treating, metal processing and other industrial heating applications are presented.

▲ For more details circle **NED-1072 D5** on enclosed inquiry slip ▲

Exhaust & Ventilating Systems

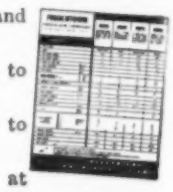
American Agile Corp.—Designed to aid companies in selecting and installing corrosionproof polyethylene plastic ventilating and exhaust systems, 8-page illustrated bulletin describes prefabricated components and fittings which can be made up into any desired system.

▲ For more details circle **NED-1073 D5** on enclosed inquiry slip ▲

take a good look at engineered ceramics

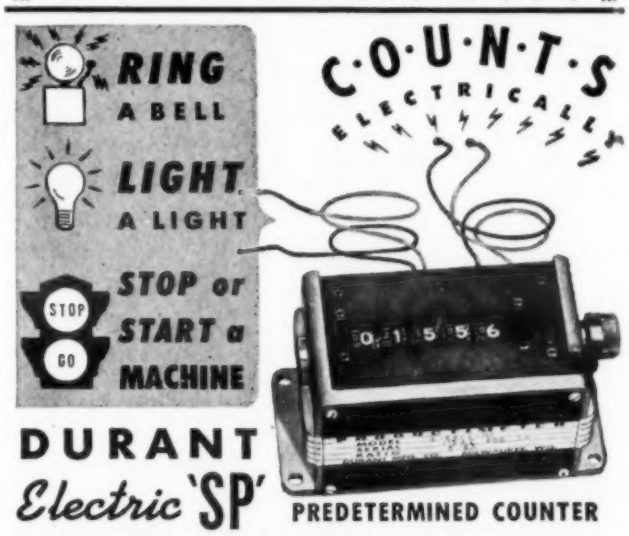
When you plan the development of a new product, or seek ways to further improve existing ones, take a good look at *engineered* ceramics in your planning. Our ceramic engineers have developed many new formulae and fabricating methods which greatly enlarge the usefulness of these amazing materials. Whether your problem involves critical or exacting electrical and mechanical properties, chances are *Frenchtown Engineered* Ceramics will provide a better answer. Check these advantages:

- MECHANICAL STRENGTH Compressive strength up to 187,000 psi.
- ABRASION RESISTANCE Demonstrated by use for sand blast nozzles.
- HEAT RESISTANCE Softening temperatures up to 1971° C.
- THERMAL CONDUCTIVITY Coefficient (c.g.s. units) up to 0.0180.
- THERMAL EXPANSION as low as 2% cumulative at 700° C.



Send for the helpful Frenchtown properties chart.

frenchtown PORCELAIN COMPANY
97 Muirhead Avenue | Trenton 9, New Jersey
▲ For more details circle **NED-1074 D5** on enclosed inquiry slip ▲



DURANT Electric 'SP' PREDETERMINED COUNTER

(COUNTS ELECTRICALLY and CLOSES SWITCH AT END OF PRE-SET COUNT)

Eliminates costly over-runs or time consuming under-runs. Actuated by Photo Electric Cell, Tube, Relay, or Contact Switch. Counter can be located where desired. Predetermined count may be set at any figure to 99,999. Hundreds of applications in all phases of production and instrument work.

SMALL • COMPACT • RUGGED • FAST • ACCURATE

Send for Catalog No. 56

DURANT MANUFACTURING CO.
1922 N. Buffum St. Milwaukee 1, Wis.
122 S. Water St. Providence 3, R. I.
Representatives in Principal Cities

PRODUCTIMETERS SINCE 1879 *Count Everything*

▲ For more details circle **NED-1075 D5** on enclosed inquiry slip ▲

KEEP PIPELINES CLEAN AS *A NEW PENNY*

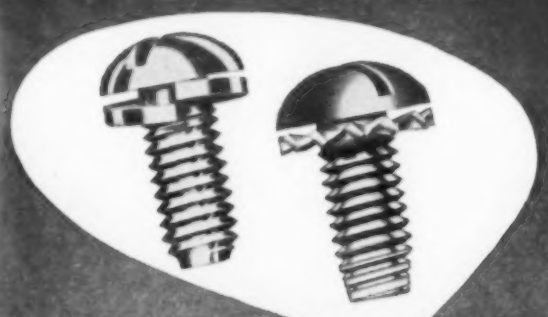
ANDERSON STRAINERS

KEEP PIPELINE DIRT AND SCALE from damaging pumps, air tools, reducing valves, temperature regulators, steam traps
FREE Valuable tips on protecting pipeline equipment. Write for Bulletin 252

The V.D. ANDERSON Company
1958 West 96th Street • Cleveland 2, Ohio
Subsidiary Chesapeake Industries Inc.

▲ For more details circle **NED-1076 D5** on enclosed inquiry slip ▲

ASSEMBLY TIME REDUCED with EATON SPRINGTITES® AND SEMS



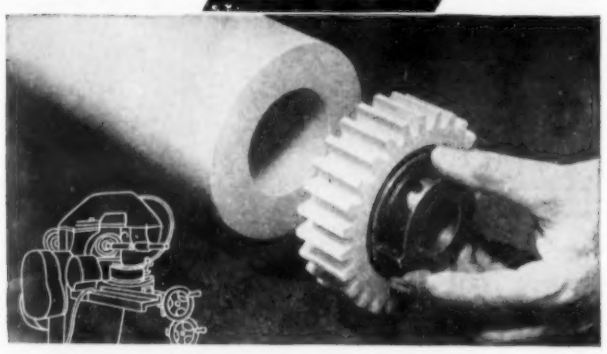
EASY TO USE
SPEED ASSEMBLY
ELIMINATE WASHER LOSS

SEND TODAY FOR FREE ENGINEERING BULLETIN S-49

EATON MANUFACTURING CO.
RELIANCE DIVISION
OFFICES and PLANTS • MASSILLON, OHIO
Sales Offices
NEW YORK • CLEVELAND • DETROIT • CHICAGO
ST. LOUIS • SAN FRANCISCO • MONTREAL

▲ For more details circle NED-1077 D5 on enclosed inquiry slip ▲

POLYPENCO® NYLON SHAPES



MAKE LASTING REPAIRS with nylon parts machined in your shop

- Nylon gears, bearings, rollers and other wear parts often last longer than metal parts . . . require little or no lubrication . . . run quietly.
- Make one part or hundreds economically on standard metalworking tools.
- Easy machining . . . no special operator skills.
- Immediate warehouse delivery of most type sizes.
- Uniform high quality . . . technical help.

WRITE FOR INFORMATION ON NYLON SHAPES

The POLYMER CORPORATION of Penna. • Reading, Penna.
In Canada: Polypenco, Inc., 2052 St. Catherine W., Montreal, P.Q.

POLYPENCO® NYLON
... teflon* and other non-metallics

Stocks: Reading • Chicago • Los Angeles • Newton (Mass.) • Branford (Conn.)
*trademark for DuPont tetrafluoroethylene resin

▲ For more details circle NED-1078 D5 on enclosed inquiry slip ▲

FEEDS to 8-in. per MINUTE

WITH FASTER CUTTING MORE DURABLE SUPER CARBIDE DRILLS

Super Carbide Drills are *faster cutting*, because our special v-ground point breaks up metal structure easier, acts like a lead hole to permit a bigger bite. The tip blends into the spiral and flutes are polished to provide easier chip relief, less friction — for *cooler cutting, longer life*. And, the Super's radial-ground relief *reduces fractures*. Heavier carbide tip *cuts breakage*, provides *more regrinding stock*. Heavy land and web provide *much greater strength*. Easy to understand why Super Drills can maintain *feeds up to 8" per minute* (cast iron) and pare downtime losses.

This improved drill design is stocked by leading tool supply houses in every industrial area, in fractional, wire or letter sizes, with straight or Morse taper shanks and in eight types, solid carbide or tipped.

WRITE NOW FOR FREE, NEW 92-PAGE CARBIDE TOOL CATALOG

Super TOOL COMPANY

SUPER TOOL CO.
DEPT. NO. 360 21650 HOOVER RD. • DETROIT 13, MICHIGAN
5210 SAN FERNANDO RD. • LOS ANGELES 3, CALIF.

▲ For more details circle NED-1079 D5 on enclosed inquiry slip ▲

New Processes & Materials

ELECTRICAL INSULATION SLEEVING of vinyl impregnated Fiberglas

Where extreme flexibility and high dielectric strength are essential under conditions of severe usage and extreme temperatures, Resinite vinyl glass electrical insulation sleeving can be satisfactorily employed. This vinyl impregnated Fiberglas sleeving stays flexible at −50° F, yet maintains dielectric strength up to 395° F. It can be twisted, pounded, creased or bent without cracking, crazing or loss of dielectric strength. Resistance to oils and chemicals is excellent. Sizes range from No. 24 to ⅜-in. ID. Sleeving is made in 11 colors and in grades B-A-1, B-B-1 and B-C-1. Made by **Resin Industries, Inc.**, Dept. N, 315 Olive St., Santa Barbara, Calif.

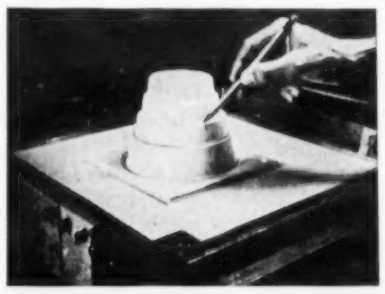
▲ For more details circle NED-1080 D5 on enclosed inquiry slip ▲

PROTECTIVE COATING for metal, concrete and wood

Used with high bond strength primers to insure adhesion, Thick-Coat resin coating affords protection for new or corroded metal, concrete and wood equipment and structures or surfaces exposed to fumes, corrosive chemical laden atmospheres or spillage of corrosive chemicals of acid, alkaline or neutral nature. It has excellent flow characteristics and is applied by brush, roller or spray. Primer and two top coats will build to minimum of 6-mil dry film thickness. It is offered in white, green, slate gray and black, with other colors on special order. Made by **Pennsylvania Salt Mfg. Co.**, 932 Widener Bldg., Philadelphia 7, Pa.

▲ For more details circle NED-1081 D5 on enclosed inquiry slip ▲

CALENDERED VINYL SHEET for deep-drawn vacuum formed parts, new in thicknesses up to 0.040-in.



Calendered rigid vinyl sheet that makes possible deep-drawn vacuum formed parts is now available in thicknesses up to 0.040-in., in widths up to 51½ in. and in continuous or custom-cut lengths. Light stability tests show no change in light transmission values, color or other properties of the sheet after 15,000 hours continuous exposure to fluorescent light. Sheet will not support combustion and provides characteristics desirable for deep-drawing of can liners, or vacuum forming of three-dimensional displays.

It is possible to screen print or predecorate the flat sheet with excellent register and without distortion when piece is vacuum formed. High tensile and flexural strengths as well as resistance to water and most chemicals are featured. Sheets up to 51½ x 72 in. are also available in thicknesses from .0075 to 0.040-in. Both continuous sheeting and cut sheets are offered in wide range of colors. Made by **Bakelite Co.**, Dept. NE, 300 Madison Ave., New York 17, N. Y.

▲ For more details circle NED-1082 D5 on enclosed inquiry slip ▲

ODORLESS SOLVENT flashpoint is 130° F

Discomfort caused by strong solvent odors can be eliminated by use of odorless TPC solvent, developed to replace kerosene and mineral spirits. It has a flashpoint of 130° F, considerably higher than the 105° F of mineral spirits. Maximum allowable concentration is 1000 parts per million, a concentration virtually impossible to reach under normal conditions. Solvent is used at room temperature for removal of grease, oil, asphalt, and soils in tank degreasers or hand operations. It leaves no residue and can be used on all metals and insulation equipment. Made by **Penetone Co.**, Box ND-455, Tenafly, N. J.

▲ For more details circle NED-1083 D5 on enclosed inquiry slip ▲

DERBY "152"

A DERBY FIRST
Stainless steel cut-off blade, guaranteed for life of machine.

MOST TALKED ABOUT GUMMED TAPE DISPENSER ON THE MARKET!

Derby spent 2 years designing, building and testing the fabulous Super "152". It's a rugged, efficient, gummed tape dispenser with so many big machine features, so many unusual Derby exclusives, that its low price is truly sensational! Dispenses 1" to 3" width tapes in predetermined lengths up to 30".

See your dealer or write Dept. NED

DERBY SEALERS INC. Derby, Conn.

▲ For more details circle NED-1084 D5 on enclosed inquiry slip ▲

Now time your jobs AUTOMATICALLY with CALCULAGRAPH!

Prints date..
starting time..
finishing time..
— and total elapsed time!

Save time and eliminate clerical errors with Calculagraph accurate-to-the-minute, printed job time records. Use these data cards for computing costs, estimating on reorders. One Calculagraph can record job time data for an entire shop or department.

NEW! AUTOMATIC DATER!
Standard on all electric models. Automatically changes date — eliminates incorrect dating of records.

Agents in Principal Cities—Ask for a Demonstration. Call or Write Dept. 302

CALCULAGRAPH COMPANY
Sussex St., Harrison, New Jersey
STANDARD OF ACCURACY SINCE 1892

▲ For more details circle NED-1085 D5 on enclosed inquiry slip ▲

The four basic types in our stock solenoid line offer you twelve sets of electro-mechanical characteristics. More than likely, your application will fall within this range. At the same time, you enjoy all the price benefits of large run production.

For complete information write for Bulletin CF-124. It contains drawings, power curves, application limitations and other technical data.

SORENG PRODUCTS CORPORATION
9577 Soreng Avenue, Schiller Park, Illinois
Plants: Schiller Park, Illinois • Spring Valley, Illinois • Fremont, Ohio
▲ For more details circle NED-1086 D5 on enclosed inquiry slip ▲

Corning heating panels are suitable for operation at temperatures as high as 660°F., range in watt densities from 2.6 to more than 9 watts per square inch.

New Corning industrial radiant panels give uniform heat distribution

Corning heating panels radiate infrared rays in a manner that gives you unrivaled uniformity of heat distribution without need of deep reflectors.

Because the heat is radiated from a flat glass surface, distribution is uniform, little is lost to the air and no oppressive heat surrounds the installation to reduce worker efficiency and comfort. Since there is no glow, you also eliminate eyestrain and fatigue from glare.

The Corning panels emit long wave-length radiation (exceeding 4 microns). Most materials, *regardless of surface texture or color,* absorb such radiation as black bodies, permitting maximum absorption of heat energy. The panels are smokeless and sootless, easy to install, safe to operate. The electrically conductive surface of the glass is the back surface—away from the work and completely enclosed.

You can build tunnels or towers utilizing practically every square inch for radiant heat, or you can suspend banks of panels overhead to save floor space. Each panel carries a one-year warranty.

For other features of this new concept in infrared heating, including design specs and diagrams, write for Bulletin B-89—or check this publication's inquiry slip.

CORNING GLASS WORKS
74 CRYSTAL STREET
CORNING, N. Y.
Corning means research in Glass
▲ For more details circle NED-1087 D5 on enclosed inquiry slip ▲

New Literature & Catalogs

Precision Tools & Gages

L. S. Starrett Co.—464-page 75th Anniversary catalog lists an impressive number and variety of tools for industry. Catalog features 85 new tools plus all other additions to company's complete line of mechanics hand measuring tools and precision instruments, steel tapes and rules, dial indicators and gages, hacksaws, band saws, band knives and precision ground die and flat stock. The pocket-size catalog is sectionalized, indexed and cross referenced for easy selection.

▲ For more details circle NED-1088 D5 on enclosed inquiry slip ▲

Rotary Pumps

Geo. D. Roper Corp.—Adjustable relief valves are standard equipment on 10-50 gpm series K rotary pumps, one of four types described and illustrated in 8-page catalog 955. Also covered are 3600 series of 40-300 gpm, 60 psi pumps; F series 1-300 gpm, 300 psi pumps; K series ¾-50 gpm, 150 psi pumps; and H series 5-75 gpm, 1000 psi pumps. Operating data, specifications and construction features are given.

▲ For more details circle NED-1089 D5 on enclosed inquiry slip ▲

Sound-Silent Projectors

Eastman Kodak Co.—Permanent prelubrication is feature common to all six Kodascope Pageant 16-mm sound motion picture projectors described and illustrated in 6-page folder V3-22. Models range from an economical 7-w single-case model to a two-case, 15-w machine suitable for use in large auditoriums. General information and special features are given for each projector.

▲ For more details circle NED-1090 D5 on enclosed inquiry slip ▲

Manufacturing Facilities & Valves

Mack Equipment & Machine Co.—Facilities for producing wide variety of parts and subassemblies are described and some of the subcontracted parts are shown in 8-page brochure. Eight types of gland-packed and nut-and-washer types of cocks with screwed or flanged ends are described. They are made in standard pipe sizes for working pressures from 150 psi.

▲ For more details circle NED-1091 D5 on enclosed inquiry slip ▲

Expanded Metal Cable Trough

T. J. Cope, Inc.—The 70,000 series of expanded metal trough for supporting runs of power, control and signal cables has built-in pin type couplers at each opening to permit sections to be permanently joined in seconds. Described in illustrated 12-page bulletin No. 67A, trough is offered in 8, 10 and 12-ft lengths. Specifications of trough and extensive line of fittings are covered.

▲ For more details circle NED-1092 D5 on enclosed inquiry slip ▲

Door Controls

Republic Industries, Inc., Dor-O-Matic Div.—Each of four Invisible Dor-Man automatic swinging door controls and 25 manual control models are described and illustrated in 8-page catalog S-55. Automatic models are controlled through a switch carpet and are available for all metal, glass or wood doors. Manual models provide positive door closing action, utilizing principle of cam action against rollers.

▲ For more details circle NED-1093 D5 on enclosed inquiry slip ▲

Weight-Proportioning System

Richardson Scale Co.—28-page illustrated catalog 0351 describes a proportioning system that permits dialing of individual ingredient weights. Details are given on eleven installations of this new Select-O-Weigh system in such varied operations as remote proportioning of oil shale, cement formulating, blending of feeds, net weighing with automatic tare compensation, liquid latex blending, automatic rubber compounding and differential weighing.

▲ For more details circle NED-1094 D5 on enclosed inquiry slip ▲

Eye Protective Equipment

Watchemoket Optical Co.—Methyl methacrylate plastic eye protective equipment which offers protection against flying particles, sparks, molten metal, chemicals and harmful light rays, is subject of 12-page illustrated bulletin 100RR. Covered are Tuc-Away lightweight safety glasses, Split-Joint plastic frame spectacles, soft vinyl frame cover goggles, welding goggles, one-piece goggles and face shields and heavy duty face shields.

▲ For more details circle NED-1095 D5 on enclosed inquiry slip ▲

NOPAK Cylinder Power employed in SHELL PROCESS MACHINES

There are 2 NOPAK Cylinders on this machine which produces shell molds. One operates the louvers on the investment box; the other rotates it 210°.

Builder of "Shell Molding" Equipment — Shell Process, Inc. of Chicopee, Mass., uses NOPAK Cylinders in its machines to provide the *controlled* power required for their efficient operation.

Illustrated at the left is a machine which produces shell molds by the investment process. It employs a 4" NOPAK Cylinder to operate the louver of the investment box containing the sand-and-resin mix which is deposited on the heated pattern. A 6" NOPAK Cylinder, visible in base, rotates the investment box 210°.

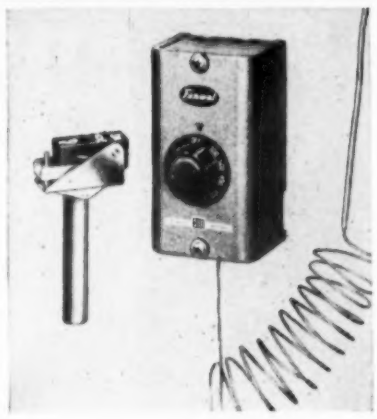
Whether you build machines for resale, or for use in your plant, NOPAK Cylinders and Valves can be used to advantage wherever fluid power is utilized.

GALLAND-HENNING NOPAK DIVISION 2755 S. 31st. St. • Milwaukee 46, Wis.

Write for Engineering Catalogs • Representatives in Principal Cities

NOPAK VALVES AND CYLINDERS
DESIGNED for AIR and HYDRAULIC SERVICE
▲ For more details circle NED-1096 D5 on enclosed inquiry slip ▲

New! Two Snap-Action Fenwal

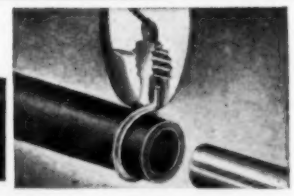


THERMOSWITCH® Units!

Series 20,000, local bulb-type, and Series 511, remote bulb-and-capillary-type, represent decided advancements over conventionally designed bellows-actuated, snap-action temperature control devices. Both feature a bellows arrangement that assures maximum sensitivity with greatly reduced lag. Both are characterized by typical Fenwal uniformity, ruggedness and dependability. Temperature ranges: Series 20,000, 50°F-300°F; Series 511, 60°-250°F or 200°-550°F. For complete data bulletins, **write Fenwal Incorporated, 84 Pleasant Street, Ashland, Mass.**

Fenwal THERMOSWITCH®
Electric Temperature Control and Detection Devices
SENSITIVE... *but only to heat*
▲ For more details circle NED-1097 D5 on enclosed inquiry slip ▲

How to put the SQUEEZE



on Hose Fastening Costs

Looking for a sure and simple solution to hose fastening problems? One that's as practical as it is economical? Here's your answer: Corbin Self-Tightening Hose Clamps — the original permanent tension clamps that are saving time and trouble for hundreds of cost-wise manufacturers.

Designed for quick and easy installation, Corbin Hose Clamps eliminate the need for nuts, bolts or screws . . . tighten automatically . . . provide safe, positive seals in all types of weather. Made of high grade heat treated spring steel, they resist rust or corrosion . . . retain their original spring or tension . . . grip evenly and securely on all types of rubber, plastic or fabric hose.

Write now for complete details. Ask for Engineering Bulletin HC 17. Corbin Self-Tightening Hose Clamps are available in all sizes to fit hoses from ⅜" to 2⅝" O.D. Corbin Hose Clamp Div., The American Hardware Corporation, New Britain, Conn.

The Original
Self-Tightening HOSE CLAMPS
▲ For more details circle NED-1098 D5 on enclosed inquiry slip ▲

HEVI DUTY TRANSFORMERS BUILT TO INDUSTRIAL STANDARDS

Small but vital to your electrical circuits

You are assured dependable operation of electrical components when you use Hevi Duty Transformers because:

- Coils are precision wound with a high dielectric insulation between winding layers.
- Each transformer is impregnated with a polymerizing-type varnish which is resistant to moisture and acid.
- All units are tested to meet or exceed N.E.M.A. standards, 105° C. Polyvinyl insulated color coded leads are firmly anchored to the coils.

Whether you need 1 or 100,000 transformers, we offer complete facilities to assist in engineering a transformer to meet exact requirements. Send us your specifications, or write for Bulletin HD-499.

HEVI DUTY ELECTRIC COMPANY
Milwaukee 1, Wisconsin

Heat Treating Furnaces, electric exclusively
Dry Type Transformers • Constant Current Regulators

For more details circle NED-1099 D5 on enclosed inquiry slip

it costs you LESS

TO HANDLE SMALL METAL PARTS WITH A MAGNETOOL!

The amazing new hand Magnetool performs a variety of cost-saving operations never before possible! Instant pick-up and release of small parts! Separates steel parts from non-ferrous metals . . . removes steel particles from food, textiles, and chemicals . . . speeds handling of heat treated material and simplifies pick-ups of extremely hot or cold parts. There are many ways you can cut handling costs with Magnetools! Alnico Permanent Magnet—no batteries—lasts indefinitely. *Write today for literature on the complete line of Magnetools.*

Model 74
8-9 lbs. capacity
$75.00

Model 72
4-5 lbs. capacity
$38.00
Pat Pend.

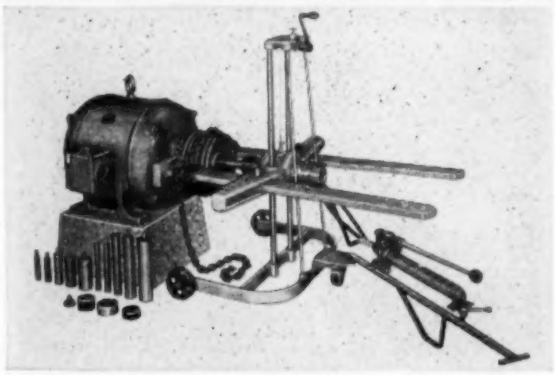
Model 71
2-3 lbs. capacity
$19.75

MAGNETOOL Div., Multifinish Mfg. Co.
26341 W. Eight Mile Rd., Dept. 457
Detroit 19, Michigan

MAGNETOOL DIVISION OF MULTIFINISH MFG. CO.
Manufacturers of Magnetic Tools, Rotary Floor Sweepers, Tank Rotaries

For more details circle NED-1100 D5 on enclosed inquiry slip

THE QUICK, EASY WAY TO REMOVE AN OBJECT FROM A SHAFT!



This Powerful, Hydraulic

PULLEY PULLER

For Removing Pulleys, Wheels, Gears, Coupling, Sheaves, etc.

One man can do it in minutes — even if objects are stuck fast. No crowbars, sledges, or blowtorches. No damage to equipment. Puller is adjustable — easy to move — rugged. Hundreds being used in industry.

- 5-ton size on wheels $101.75
- 20-ton size on wheels $319.00
- 50-ton size on wheels $720.50

F.O.B. Factory. New Quicklink chain and set of ten ram adaptors as shown, at slight additional cost.
Write for complete information — Catalog E

INDUSTRIAL ENGINEERING EQUIPMENT CO.
122-124 E. 4th St. Davenport, Iowa

For more details circle NED-1101 D5 on enclosed inquiry slip

New Processes & Materials

EXTERIOR MASONRY PAINT
even applicable to damp surfaces

Because its film "breathes," Rub-R-Clad one-coat exterior masonry and asbestos shingle paint is resistant to almost all causes of paint failure. It can be used on stucco, brick, wood, cinder block, cement, plaster, concrete, stone and asbestos cement surfaces. This paint has a polyvinyl acetate latex base, has coverage of 350 to 500 sq ft per gal on most masonry, dries in one hour to a low velvety luster and resists acids, alkalies, blistering, grease, moisture, fumes, scaling and weather. It is offered in ten colors plus white and can be intermixed to meet practically any desired color need. Made by **Adelphi Paint & Color Works, Inc.**, Dept. ND-114, 86-00 Dumont Ave., Ozone Park 17, N. Y.

For more details circle NED-1102 D5 on enclosed inquiry slip

GLASS FIBER BUILDING PANEL
features heat-blocking ingredient

Designed specifically for outdoor overhead uses, Steplap translucent plastic-glass fiber building panel features ingredient called Filtron 25 which controls light and heat ray penetration. Panel is available in standard widths of 41½ and 31½ in. and length of 10⅓ ft. Steps in the panel measure 5 in., including the 1-in. flat surfaces provided for flush-fastening of panels to supporting framework. Catalina white, yellow, coral, blue and green are available colors. Made by **Alsynite Co. of America**, Dept. 12, 4654 De Soto St., San Diego 9, Calif.

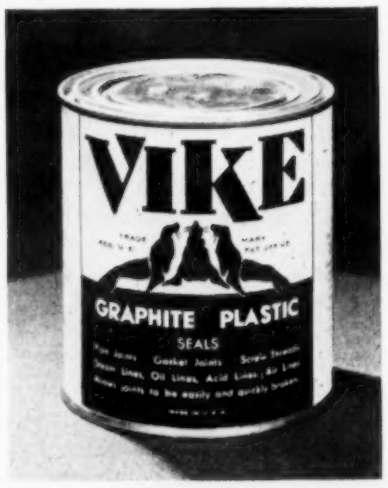
For more details circle NED-1103 D5 on enclosed inquiry slip

METAL IMPRINTING INK
has excellent weathering quality

Tests made of Grade No. 1001-S ink for 840 hours in Weathermeter machine show that it withstands adverse weather conditions. Ink is for printing on galvanized, stainless and other sheet metal alloys, as well as on hot and cold bars and cold rolled sheet plate. Even with slight film of oil on material, printing results are good and ink will not rub off under ordinary handling. Ink can be used in drum printing machines either in open fountains, or with plate adjustment in control fountains. It can be used by hand on automatic stamping pads and is also supplied as paste for paste type fountains. Developed by **Pannier Corp.**, 301 Pannier Bldg., Pittsburgh 12, Pa.

For more details circle NED-1104 D5 on enclosed inquiry slip

GASKET PRESERVATIVE
acts as positive joint seal



Usable for impregnation of boiler gaskets, Vike graphite plastic keeps gaskets soft and permits them to be re-used several times. This material is also suitable as a positive dependable seal for pipe joints, screw threads, gasket joints and flanges on hot or cold petroleum lines as well as on propane, butane, coal tar, vapor, acid and air lines. Because of its high coefficient of expansion, it is particularly suited for high temperature service. Made by **Keystone Lubricating Co.**, 3100 N. 21st St., Philadelphia 32, Pa.

For more details circle NED-1105 D5 on enclosed inquiry slip

Account For Corrosive Liquids

ALCOHOLS, VEGETABLE OILS, DEIONIZED WATER, ETC.,

with

Rockwell "316" Stainless Steel Meters

Cut-away view

Be Sure of Your End Product

Want the finest degree of *quality control* in your formulations? Need accurate *cost controls* over liquid ingredients? Is *inventory* a problem? Are *losses* eating into your profits? Then turn to a basic accounting tool—*Rockwell liquid meters.* Get the accurate metered records you need to operate efficiently. Available in a wide variety of types, materials and sizes to suit every requirement. Our bulletins tell all. Write today.

YOU CAN RELY ON ROCKWELL

ROCKWELL MANUFACTURING COMPANY
DEPT. 112-D PITTSBURGH 8, PA.

For more details circle NED-1106 D5 on enclosed inquiry slip

Another Adhesive Problem Solved with Pliobond

LOWER COSTS, LESS WEIGHT, MINIATURIZATION, for a variety of electrical assemblies, are now possible with printed circuits. These are made by bonding copper foil to the insulating base with PLIOBOND, then etching the metal away to leave the desired pattern. Photo courtesy Circuitron, Inc., Rockville, Conn.

CHEMICAL GOODYEAR DIVISION

BONDING OF METALS to the base plastic by metalization processes can be scheduled on regular production runs *without an overpowering percentage of piece rejections.* That's the report on the use of PLIOBOND by Circuitron, Inc., pioneers in the manufacture of printed electrical circuits. PLIOBOND is the thermoplastic cement that "bonds anything to anything." Exhaustive tests proved PLIOBOND would give the consistently uniform, high-strength bonds needed in the fabrication of extremely fine wiring circuits or schematics where one poor spot could ruin the piece. For details on how PLIOBOND can help you, see your local industrial distributor or write to:

Goodyear, Chemical Division, Akron 16, Ohio

Pliobond—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-1107 D5 on enclosed inquiry slip

▲ For more details circle **NED-1108 D5** on enclosed inquiry slip ▲

WHO...ME? AN *AIRCRAFT* ENGINEER?

Yes, Lockheed in California can train you...at full pay!

The step up to Aircraft Engineering isn't as steep as you might expect.

Aircraft experience isn't necessary. Lockheed takes your knowledge of engineering principles, your experience in other engineering fields, your aptitude and trains you for aircraft work through a program adapted to the individual.

Part of the program includes on-the-job training. When necessary you attend Lockheed classes. You learn to work with closer tolerances. You become more weight conscious. Because Lockheed's diversified expansion program ranges across the entire spectrum of aeronautical endeavor, you learn that fresh thinking, new ideas are welcomed and rewarded.

Naturally, you receive full pay while training, as well as a wide range of extra employee benefits which add approximately 14% to your salary in the form of insurance, retirement pension, etc. These opportunities for engineers in all fields have been created by Lockheed's long-range development program. Projects include: turbo-jet and turbo-prop transports; supersonic fighters far exceeding present-day aircraft in performance; advanced versions of vertical rising aircraft, jet trainers and bombers; nuclear energy applications to aircraft; and a large number of significant classified projects.

From a career standpoint, it is significant that a large measure of Lockheed's development program involves commercial aircraft.

Equally important from a living standpoint is the better life you lead in Southern California. Year-round sunshine, varied cultural and recreational opportunities, and scenic beauty of San Fernando valley provide the ideal background for modern living. You are invited to write for a brochure describing life and work at Lockheed and a job application blank. Coupon below is for your convenience.

Mr. E. W. Des Lauriers, Dept. D-20-4
Lockheed Aircraft Corporation
1708 Empire Avenue, Burbank, California

LOCKHEED AIRCRAFT CORPORATION
BURBANK, CALIFORNIA

Dear Sir: Please send me your brochure describing life and work at Lockheed in Southern California.

My name _____

My present field of engineering _____

My street address _____ My city and state _____

▲ For more details circle **NED-1109 D5** on enclosed inquiry slip ▲

New Literature & Catalogs

Welding Supplies & Accessories

Air Reduction Sales Co.—Extensive line of arc welding and oxyacetylene welding supplies and accessories is detailed in illustrated 36-page catalog ADC 848. Included are welding rods, fluxes, brazing alloys, goggles, helmets, shields, electrode holders, protective clothing, cable, clamps, hose, lighters, cylinder trucks and carrying cases.

▲ For more details circle **NED-1110 D5** on enclosed inquiry slip ▲

Collet Selection Guide

Hardinge Brothers, Inc.—Specifications and dimension charts, conversion and interchangeability listings and prices are featured in tabular form for easy reference in 4-page illustrated collet selection guide. Listed in bulletin No. 54 are stocked collets for all lathes, millers and grinders.

▲ For more details circle **NED-1111 D5** on enclosed inquiry slip ▲

Drill Presses & Accessories

Michigan Drill Head Co.—Feed units, tapping units, hydraulic drill presses, index tables, fixed center and adjustable center drill heads are described in 24-page catalog. Technical data pertaining to feeds, speeds and horsepower required for drilling and recommended coolants for various materials are included.

▲ For more details circle **NED-1112 D5** on enclosed inquiry slip ▲

Trucks, Trailers, Casters & Wheels

Thomas Truck & Caster Co.—Among products illustrated in 84-page catalog No. 55 are redesigned General trailer with steel "T" main frame; trailers for underfloor and overhead conveyor systems; heavy duty wagon trucks with capacities up to 60 tons; and 190-290 series of swivel and rigid forged steel heavy duty casters. Complete line of "job-suited" industrial trucks, trailers, casters and wheels is covered.

▲ For more details circle **NED-1113 D5** on enclosed inquiry slip ▲

Bulk Handling Boxes

Powell Pressed Steel Co.—Flow-mation system for automatic production handling of small parts is described in 6-page illustrated bulletin FM. It makes use of movable work level stand with hopper arrangement. Standard fork lift truck sets a Flow-Matic box on the stand. With gravity feed, it discharges contents into the hopper at the right work level. Two box sizes are available.

▲ For more details circle **NED-1114 D5** on enclosed inquiry slip ▲

Personnel Lift-Mobile Crane

Hi-tender—Mounted on a 360-degree rotating base mounted on any 1½ to 3-ton truck, the HI-tender personnel lift and mobile crane utilizes a two-section articulated mast to reach a working height of 30 ft, 10 ft off center. Height of 40-ft can be specified. Operator's cage will support two men and their tools. Unit can be used as a light crane for loads up to 1000 lb.

▲ For more details circle **NED-1115 D5** on enclosed inquiry slip ▲

Underwriter Pumps

Viking Pump Co.—Roto-Ring mechanical seal and Multi-Ring deep stuffing box are available in series of Underwriter-approved pumps for handling hazardous liquids, described in illustrated 12-page catalog section D. Pumps operate equally well in either direction and have 5 to 300 gpm capacities. Variety of mounted and unmounted types and drives are offered. Specifications are given.

▲ For more details circle **NED-1116 D5** on enclosed inquiry slip ▲

Small Electric Motors

Master Appliance Mfg. Co.—Mamco universal subfractional horsepower electric motors for operation on 6 to 260 v ac or dc are subject of 4-page illustrated bulletin. Specifications and performance of skeleton, housed and complete motor sets are diagrammed. Also shown are lightweight nylon blower wheels.

▲ For more details circle **NED-1117 D5** on enclosed inquiry slip ▲

Industrial Television Equipment

Radio Corp. of America, Engineering Products Div.—The new ITV-6 industrial television equipment provides a means of viewing at a distance, a clear, exact, instantaneous picture of any scene or operation where direct observation is too dangerous, too inaccessible, too inconvenient or too expensive. Full details of this equipment and its use are given in 4-page catalog E.51.

▲ For more details circle **NED-1118 D5** on enclosed inquiry slip ▲

Helpful 56 page book FREE

if you use saws send for this book

This free book is based on facts and experience from many years' use of Foley precision saw filing equipment in thousands of plants. It contains pictures and helpful data showing how firms have actually increased sawing production 25% to 40%, lengthened saw life, reduced breakage, produced better work, and have lowered maintenance costs (one firm reports an annual saving of $350). Book includes instructions illustrating how automatic sharpening can benefit you. Request Manual No. 100—no obligation.

FOLEY MANUFACTURING CO. • 3323 N.E. 5th St., Minneapolis 18, Minn.

▲ For more details circle **NED-1119 D5** on enclosed inquiry slip ▲

specify standard

HALLOWELL

UNIT WORK BENCHES

HALLOWELL FEATURES

2 lengths, 2 widths, 2 heights—all standard

4 top materials—steel, Presdwood on steel, ShopTop, laminated wood

Plenty of drawer and cabinet space, functional design

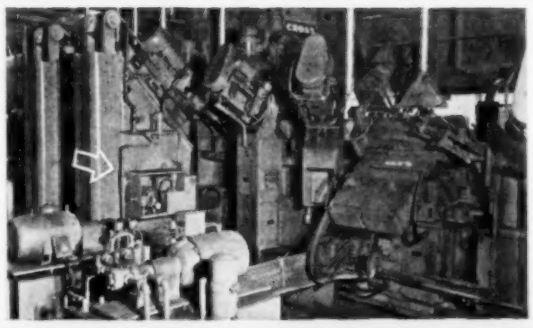
Use them as individual units or as continuous benches of any length

Standard units with *standard* accessories permit you to *custom build* Hallowell Unit Work Benches to fit your requirements. Stocked by leading shop equipment dealers. Write for literature. STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

HALLOWELL SHOP EQUIPMENT DIVISION **SPS** JENKINTOWN PENNSYLVANIA

▲ For more details circle **NED-1120 D5** on enclosed inquiry slip ▲

NEW AUTOMATIC, CENTRALIZED NORGREN MICRO-FOG LUBRO-CONTROL UNIT



LUBRICATES UP TO 1000 BEARING INCHES

Two new Norgren Micro-Fog Lubro-Control Units (Model 33AB-4) on Cross Transfer-Matic, in large automobile plant, lubricate 350 bearings, 170 spur gears. Operate at approximately 15 psi, require only 10 cfm of air, use only 1.6 fluid oz. oil per hour. Eliminate many small lubricators and complex piping systems, provide better lubrication, reduce maintenance and lubrication costs. Let Norgren help you apply the advantages of Micro-Fog to bearing lubrication on your machines.

For complete details write for Norgren Blueprint MF-11 and Form 492A

C. A. Norgren CO.
3405 So. Elati, Englewood, Colo

▲ For more details circle **NED-1121 D5** on enclosed inquiry slip ▲

To Use this Self-Mailer . . . Just Fill It In, Fold, Seal and Mail . . . No Postage Needed

To Use this Self-Mailer . . . . Just Fill In, Fold, Seal and Mail . . . No Postage Needed

FOLD • SEAL • MAIL

Have You Filled In Your Name and Address?

FOLD TO THIS LINE

To obtain additional information on any items in this issue of NEW EQUIPMENT DIGEST, circle numbers below which correspond with those of the desired items. Your request will be forwarded promptly to the manufacturer. Please give your name, title, company and address. This postage-free mailer should be folded as indicated for mailing.

	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150
1	51	101	151	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	1101	1151
2	52	102	152	202	252	302	352	402	452	502	552	602	652	702	752	802	852	902	952	1002	1052	1102	1152
3	53	103	153	203	253	303	353	403	453	503	553	603	653	703	753	803	853	903	953	1003	1053	1103	1153
4	54	104	154	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154
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8	58	108	158	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158
9	59	109	159	209	259	309	359	409	459	509	559	609	659	709	759	809	859	909	959	1009	1059	1109	1159
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11	61	111	161	211	261	311	361	411	461	511	561	611	661	711	761	811	861	911	961	1011	1061	1111	1161
12	62	112	162	212	262	312	362	412	462	512	562	612	662	712	762	812	862	912	962	1012	1062	1112	1162
13	63	113	163	213	263	313	363	413	463	513	563	613	663	713	763	813	863	913	963	1013	1063	1113	1163
14	64	114	164	214	264	314	364	414	464	514	564	614	664	714	764	814	864	914	964	1014	1064	1114	1164
15	65	115	165	215	265	315	365	415	465	515	565	615	665	715	765	815	865	915	965	1015	1065	1115	1165
16	66	116	166	216	266	316	366	416	466	516	566	616	666	716	766	816	866	916	966	1016	1066	1116	1166
17	67	117	167	217	267	317	367	417	467	517	567	617	667	717	767	817	867	917	967	1017	1067	1117	1167
18	68	118	168	218	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168
19	69	119	169	219	269	319	369	419	469	519	569	619	669	719	769	819	869	919	969	1019	1069	1119	1169

FOLD TO THIS LINE

20	70	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170
21	71	121	171	221	271	321	371	421	471	521	571	621	671	721	771	821	871	921	971	1021	1071	1121	1171
22	72	122	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922	972	1022	1072	1122	1172
23	73	123	173	223	273	323	373	423	473	523	573	623	673	723	773	823	873	923	973	1023	1073	1123	1173
24	74	124	174	224	274	324	374	424	474	524	574	624	674	724	774	824	874	924	974	1024	1074	1124	1174
25	75	125	175	225	275	325	375	425	475	525	575	625	675	725	775	825	875	925	975	1025	1075	1125	1175
26	76	126	176	226	276	326	376	426	476	526	576	626	676	726	776	826	876	926	976	1026	1076	1126	1176
27	77	127	177	227	277	327	377	427	477	527	577	627	677	727	777	827	877	927	977	1027	1077	1127	1177
28	78	128	178	228	278	328	378	428	478	528	578	628	678	728	778	828	878	928	978	1028	1078	1128	1178
29	79	129	179	229	279	329	379	429	479	529	579	629	679	729	779	829	879	929	979	1029	1079	1129	1179
30	80	130	180	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180
31	81	131	181	231	281	331	381	431	481	531	581	631	681	731	781	831	881	931	981	1031	1081	1131	1181
32	82	132	182	232	282	332	382	432	482	532	582	632	682	732	782	832	882	932	982	1032	1082	1132	1182
33	83	133	183	233	283	333	383	433	483	533	583	633	683	733	783	833	883	933	983	1033	1083	1133	1183
34	84	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134	1184
35	85	135	185	235	285	335	385	435	485	535	585	635	685	735	785	835	885	935	985	1035	1085	1135	1185
36	86	136	186	236	286	336	386	436	486	536	586	636	686	736	786	836	886	936	986	1036	1086	1136	1186
37	87	137	187	237	287	337	387	437	487	537	587	637	687	737	787	837	887	937	987	1037	1087	1137	1187
38	88	138	188	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188
39	89	139	189	239	289	339	389	439	489	539	589	639	689	739	789	839	889	939	989	1039	1089	1139	1189
40	90	140	190	240	290	340	390	440	490	540	590	640	690	740	790	840	890	940	990	1040	1090	1140	1190
41	91	141	191	241	291	341	391	441	491	541	591	641	691	741	791	841	891	941	991	1041	1091	1141	1191
42	92	142	192	242	292	342	392	442	492	542	592	642	692	742	792	842	892	942	992	1042	1092	1142	1192
43	93	143	193	243	293	343	393	443	493	543	593	643	693	743	793	843	893	943	993	1043	1093	1143	1193
44	94	144	194	244	294	344	394	444	494	544	594	644	694	744	794	844	894	944	994	1044	1094	1144	1194

FOLD ON THIS LINE

45	95	145	195	245	295	345	395	445	495	545	595	645	695	745	795	845	895	945	995	1045	1095	1145	1195
46	96	146	196	246	296	346	396	446	496	546	596	646	696	746	796	846	896	946	996	1046	1096	1146	1196
47	97	147	197	247	297	347	397	447	497	547	597	647	697	747	797	847	897	947	997	1047	1097	1147	1197
48	98	148	198	248	298	348	398	448	498	548	598	648	698	748	798	848	898	948	998	1048	1098	1148	1198
49	99	149	199	249	299	349	399	449	499	549	599	649	699	749	799	849	899	949	999	1049	1099	1149	1199

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D-5

NAME ..... TITLE .....

COMPANY .....

ADDRESS .....

CITY ..... ZONE ..... STATE .....

Principal Products Manufactured .....

..... Approx. Number of Employees in Plant .....

Check Invested Capital Rating of Your Company

☐ Over $1,000,000

☐ $500,000 to $1,000,000

☐ $200,000 to $500,000

☐ $75,000 to $200,000

☐ Under $75,000

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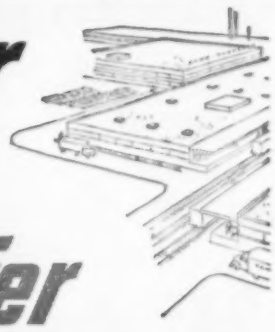

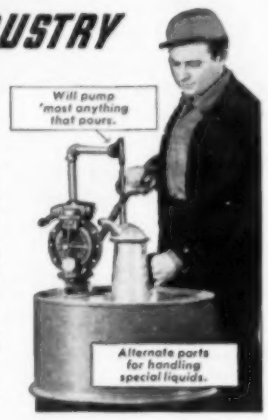

Want to handle industrial liquids with greater safety? Then install Tokheim hand pumps—specially adaptable to maintenance and production work. They help prevent spilling, slopping, over-filling, dripping. Your plant is kept cleaner—work is speeded—waste halted—accidents prevented.

Operating on both forward and backward strokes, these efficient pumps deliver 20 gallons per 100 strokes. Available with hose or spout outlets—also other interchangeable accessories. No plant should be without a battery of Tokheims.

Call your dealer, your Tokheim representative; or write today for literature

QUALITY TOKHEIM HIGH-VACUUM HAND PUMPS

General Products Division
TOKHEIM CORPORATION
Designers and Builders of Superior Equipment
1656 Wabash Ave. Since 1901 Fort Wayne 1, Ind.
Factory Branch: 1209 Howard Street, San Francisco 3, Calif.
Canadian Distributor: H. Reeder, 205 Yonge St., Toronto, Ont.

▲ For more details circle **NED-1122 D5** on enclosed inquiry slip ▲

Randall

a complete and dependable source for all your bronze requirements

PRECISION BRONZE BARS

Bearings machined from Randall Bronze Bars give long, trouble-free service. Randall's Graphitic die-cast process produces a more homogeneous grain structure. Available in over 400 stock sizes of either bored or solid bars (1/2" to 10" OD). All bars are 13" long, precision machined inside, outside, on the ends, and ready for the finish cut. Meet SAE 660 specifications. Also available in SAE 64 and other alloys in production quantities.

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Ready-to-use, uniformly excellent bronze bushings in over 800 stock sizes at economical prices. Each bushing is a product of exacting foundry practice and precision machining—ground finish outside diameters. Meet SAE 660 specifications.

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Produced from over 800 stock size bearings, or blueprint specifications to Randall's exclusive graphiting formula. Will not wash out—assures proper lubrication under the most adverse conditions, protects against neglect. Available in many styles of plug, groove, and oil reservoir type designs.

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PILLOW BLOCKS
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THRUST WASHERS
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BRONZE CASTING

Randall

RANDALL GRAPHITE BEARINGS, INC.
1007 S. Greenlawn Avenue, Lima, Ohio

▲ For more details circle **NED-1123 D5** on enclosed inquiry slip ▲

New Processes & Materials

LABORATORY DETERGENT prevents spotting of glassware

Alcowet detergent is available for use in laboratory washing machines and in all mechanical washers. It removes difficult stains and prevents spotting of glassware usually resulting from quick machine drying operations. Made by **Alconox, Inc.,** 61-63 Cornelison Ave., Jersey City 4, N. J.

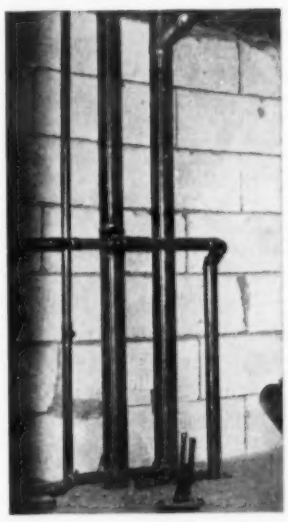
▲ For more details circle **NED-1124 D5** on enclosed inquiry slip ▲

PEELABLE ADHESIVE for applying labels to polyethylene

Ordinary paper labels can now be applied to polyethylene food or chemical containers, waste baskets, ice-cube trays, etc. with use of Rubbatex peelable adhesive. Applied easily by brush or existing labeling machines, adhesive holds label securely as long as desired. Since adhesive adheres most effectively to label, it will strip clean from the polyethylene. Developed by **Rubba, Inc.,** Dept. 3N, 1015 E. 173rd St., New York 60, N. Y.

▲ For more details circle **NED-1125 D5** on enclosed inquiry slip ▲

COPPER DRAINAGE TUBE for soil, waste and vent lines



Developed specifically for sanitary drainage service, Copper Drainage Tube is usable in soil, waste and vent lines. Tests indicate it will give trouble-free service for the life of a building in normal applications. Tube is used with line of brass drainage fittings conforming to ASA B16.23 specifications which provide for all service conditions encountered in plumbing installations. Fittings and tube give sanitary drainage with smooth interiors and low frictional resistance to flow. Clogging is virtually impossible. All joints are made by simple soldering operation. Weight of copper drainage systems is approximately one-third that of conventional drainage systems. Tubing and fittings are made by several manufacturers. For full details, contact **Copper & Brass Research Association,** Dept. NED, 420 Lexington Ave., New York 17, N. Y.

▲ For more details circle **NED-1126 D5** on enclosed inquiry slip ▲

Bin Stuck Lately?

Don't ruin your Bins

Vibrate them with a TYPE F CLEVELAND AIR VIBRATOR

What's the problem in your case? Just tell us... or ask for our detailed literature.

THE CLEVELAND VIBRATOR CO.
2744 Clinton Ave. • Cleveland 13, Ohio

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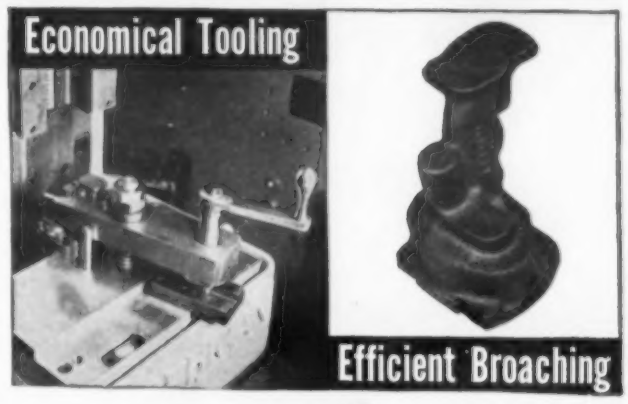

...both by American

A simplified manual clamp positions and holds a cast iron pump body for simultaneous broaching of four locating pads on three sides of part. Surface broaches and fixture are mounted on an American 3-way which easily adapts for broaching other parts.

Whether yours is a comparatively simple broaching problem like this one — or a high-output operation that warrants the best in modern automation — American engineering will serve you well. Write details of your requirements — prompt attention assured.

Ask for American's Catalog 450.

American BROACH & MACHINE CO.
A DIVISION OF SUNDSTRAND MACHINE TOOL CO.
ANN ARBOR, MICHIGAN

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BE SURE WITH Southern PHILLIPS AND SLOTTED WOOD SCREWS

with SERVICE by U.S.A. standards!

Southern Wood Screws, Phillips or Slotted, flat, round, oval in steel, brass, silicon bronze, aluminum, stainless steel and all popular plated finishes.

Stove Bolts in slotted steel, round, or flat.

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Factory Warehouses: New York, N. Y. • Chicago, Ill. • Los Angeles, Calif. • Dallas, Tex.

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NoDrip® ...STOPS CONDENSATION DRIP

NoDRIP PREVENTS RUST —ANYONE CAN APPLY

NoDrip plastic coating is easily applied to tanks, containers, suction lines, vats, pipes, walls, ceilings, etc. NoDrip adheres to metal, concrete, brick, plastic. It forms a seamless 100% moisture-proof covering that is effective as soon as dry. Acid, alkali and brine resistant.

FREE... Interesting 32-page Handbook shows what NoDrip is and what it does.
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J. W. MORTELL CO., 526-D BURCH ST., KANKAKEE, ILL.
TECHNICAL COATINGS SINCE 1895

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MODEL B
5" x 10" Capacity

A FULL 5 x 10 CAPACITY LOW COST SAW FOR LARGE AND SMALL PLANTS

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JOHNSON MANUFACTURING CORP.
ALBION, MICHIGAN

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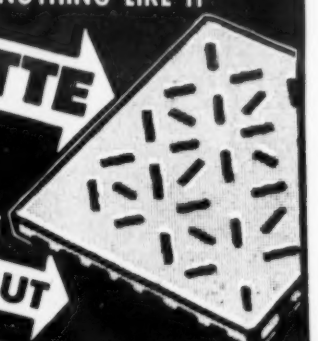
FLOORING MIRACLE!

THE GREATEST INDUSTRIAL FLOOR ADVANCE IN 25 YRS

THERE'S NOTHING LIKE IT

ANCORETTE STEEL FLOOR PLATES NEVER WEAR OUT



NO UPKEEP-ECONOMICAL-PERMANENT

SIMPLE INSTALLATION
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NO SLIP—QUIET

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ONLY 55¢ PER PLATE ONE SQ. FT.

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NOW TROUBLE-FREE deburring & countersinking

with the NEW FORD UNIFLUTE COUNTERSINK

Engineered for maximum efficiency with simple *single flute design*, FORD'S new high speed steel Uniflute *ends all deburring and countersinking troubles* on soft stringy steels, aluminum, brass, bronze, plastic, rubber, wood and other materials. FORD'S new HSS Uniflute covers *a wide range of hole sizes with one diameter tool.* Its cutting action is effective from the working point to the major diameter. Job-engineered shear angles allow superior free cutting, insure trouble-free action, even at higher speeds.

FREE information • **Bulletin HSS 408** gives complete information about Ford's new Uniflute countersink, plus easy 4-step instructions on how you can resharpen the Uniflute in your own tool room.
Catalogue No. 207 gives all facts on more than 277 FORD rotary tools including HSS ground cutters, rotary files, countersinks; CARBIDE cutters, and mills, grinding burs. **Send today!**

FORD regrinding service adds tool life, reduces tool costs!

M. A. FORD MFG. CO., INC.
Pioneers in rotary tools for more than 30 years
721 W. River Street, Davenport, Iowa

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New Literature & Catalogs

Air & Oil Cylinders

Hydro-Line Mfg. Co.—S series of automation cylinders is detailed in illustrated 8-page catalog No. 55. Included are seven drawings of various mount types, enlarged cut-away illustration showing construction features and dimensions for each mount from 1½ to 8-in. bores. Operation is on air pressures up to 200 psi and oil pressures up to 1000 psi.

▲ For more details circle NED-1137 D5 on enclosed inquiry slip ▲

Centralized Lubrication System

Farval Corp.—Multival centralized lubrication system for a machine with a limited number of bearings, or for any small group of bearings, is subject of 8-page bulletin No. 16. How it works and where it can be used on up to 12 bearings is related. Bearings are lubricated from a single point and receive a precisely metered amount of lubricant.

▲ For more details circle NED-1138 D5 on enclosed inquiry slip ▲

Industrial Safety Equipment

Willson Products, Inc.—Eye, head and respiratory protection and welding safety equipment are four major sections of this general catalog on industrial safety equipment. It contains illustrations and descriptions of equipment and ordering data.

▲ For more details circle NED-1139 D5 on enclosed inquiry slip ▲

Tracing & Blue Print Files

Art Metal Construction Co.—Planfiles for vertical filing of plans, drawings, blueprints, tracings and sketches are described in 16-page booklet AD2226-55. Drawings and cut-away photos show how 3000 to 5000 separate sheets are held in vertical position through use of compressor springs. Units for drawings up to 36 x 24, 42 x 30, 48 x 36 and 56 x 24 in. are shown. Smaller drawer type units are also described.

▲ For more details circle NED-1140 D5 on enclosed inquiry slip ▲

Industrial Hose & Fittings

Weatherhead Co.—132 pages of information on industrial hose and fittings, tabbed for quick reference, are found in the Weatherhead Yellow Book. Sections cover brass tube fittings, drain and shut-off cocks, SAE 37-degree flare (JIC) fittings, Ermeto steel and stainless steel fittings, bulk hose and reusable ends and hose assemblies. Technical data and service tool sections are included.

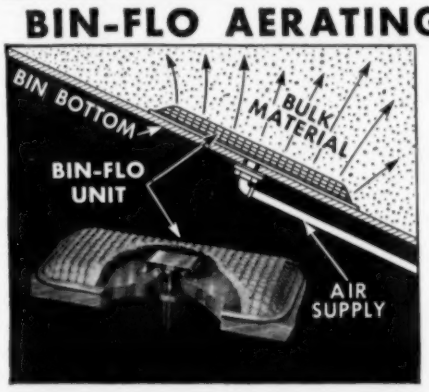
▲ For more details circle NED-1141 D5 on enclosed inquiry slip ▲

Packaged Power Stations

Continental Electric Equipment Co.—How compact, enclosureless packaged power at load centers effects installation and operating economies, while stepping-up production and providing for future load demands is explained in 16-page bulletin 102 on unit substations. Installations on platforms, balconies, in basements, outdoors and in production areas are shown.

▲ For more details circle NED-1142 D5 on enclosed inquiry slip ▲

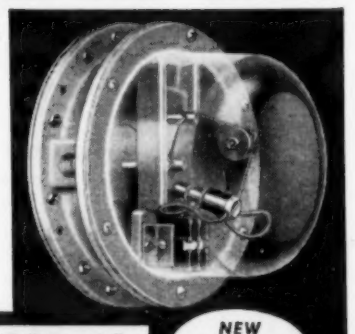
BIN-FLO AERATING UNIT



Provides Steady Flow of Dry, Finely Ground Materials which tend to bridge in storage. Uses only small amount low-pressure air.

BIN-DICATOR BIN LEVEL INDICATOR

For All Bulk Materials



signals change in level; automatically starts and stops filling and emptying equipment.

THE BIN-DICATOR CO.
13946-A Kercheval • Detroit 15, Mich.

NEW DETAIL DATA BOOK FREE

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FASTER UNIFORM HEATING! BLUE M STABIL-THERM OVENS GIVE BEST RESULTS for PRODUCTION for PILOT PLANTS for LABORATORIES

BLUE M'S IMPROVED FORCED DRAFT OVENS NOW HAVE DIRECTED AIR FLOW. TURBO BLOWER CONVECTS TEMPERED AIR VERTICALLY THRU REAR PLENUM CHAMBER. NEW DESIGN—ADDED CONVENIENCE.

✓ **Automatic Trigger Control** U.L. App'v'd. ± ½°C. Sensitivity
✓ **Power Selector Switch** Adjusts wattage in 3 steps.
✓ **Temperature Range** 100°F. to 500°F.
✓ **Double Wall Design**
✓ **Inside Dimensions** 19" W. x 15" D. x 18" H.
✓ **Wiring Complete** Meets Nat. Elec. code

MODEL NO. OV-490
Stainless Interior. Enameled Steel Exterior. 115V, 60c A.C.
$295.00 complete

MODEL NO. OV-510
All polished Stainless Steel, Type 18-8
$375.00 complete

BLUE M ELECTRIC COMPANY
138th and Chatham, Blue Island, Illinois

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JOHNSON BEARINGS in over 900 standard sizes

• You can secure virtually any size sleeve bearing you need from your local Johnson Bearing Distributor. He handles the widest range of sizes on the market . . . from ¼ inch to 4½ inch ID, the wall thickness you need and the right length. You'll save time with Johnson General Purpose Cast Bronze Bearings . . . and save money, too.

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OTHER BEARING TYPES
Electric Motor • Graphited • Self-Lubricating Powder Metallurgy • Universal Bronze Bars • Babbitt.

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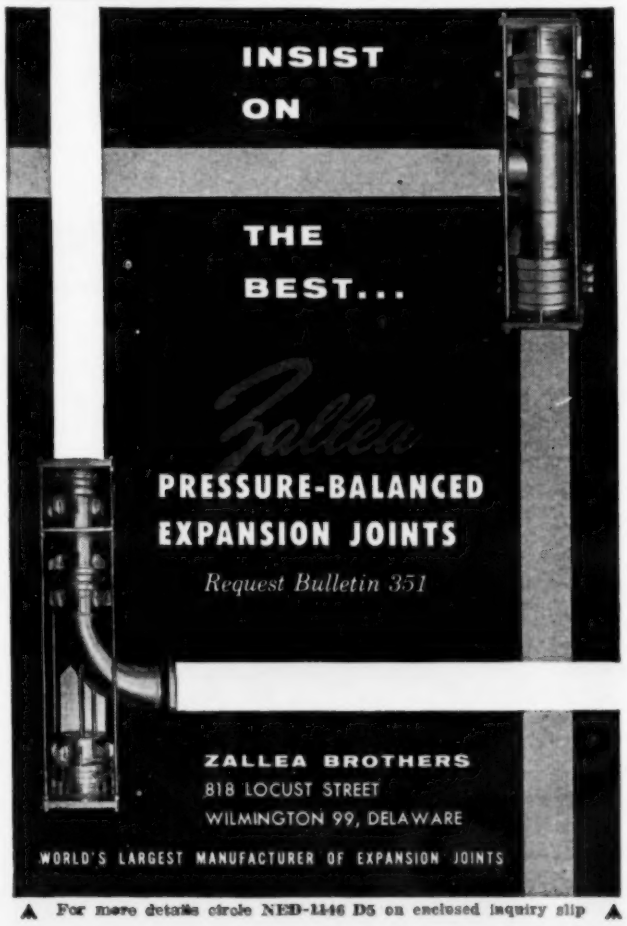

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Request Bulletin 351

ZALLEA BROTHERS
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WILMINGTON 99, DELAWARE

WORLD'S LARGEST MANUFACTURER OF EXPANSION JOINTS

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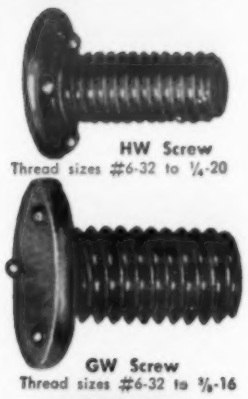
Specify OHIO WELD FASTENERS For:

- Faster Assembly
- Added Strength
- Flush Inside Surfaces
- Unmarred Outside Surfaces



Our 50th Anniversary (1905-1955)
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Specialists in the Manufacture of Weld Fasteners and Adjusting Screws
14 First Avenue Berea, Ohio

For more details circle NED-1147 D5 on enclosed inquiry slip

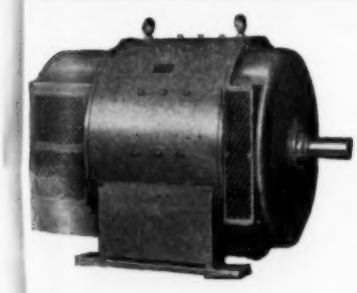
You can obtain all the advantages of automatic operation in your press room with U.S. Equipment. U.S. Slide Feeds, Stock Reels, Straighteners, Coil Cradles, Scrap Choppers, etc. are designed and built to provide increased efficiency, greater production, material savings and reduced labor costs in the fabrication of stampings. The photograph—courtesy of Whirlpool Corp., manufacturers of home laundry equipment—illustrates a set-up of U.S. Automatic Press Room Equipment in use at their plant.

U.S. Slide Feeds are recognized as the most accurate automatic feeds in the market. They can pull material, within their capacity, through a plain stock straightener and still maintain controlled accuracy. Bulletin No. 80-N contains complete specifications. Write for your copy.

SLIDE FEEDS
ROLL FEEDS
STRAIGHTENERS
STOCK REELS
COIL CRADLES
OILERS — WIPERS
SCRAP CHOPPERS
MULTI-STOP
U.S. MULTI-SLIDES
U.S. MULTI-MILLERS

U.S. TOOL COMPANY, Inc.
AMPERE (East Orange) NEW JERSEY
Builders of U. S. Multi-Slides — U. S. Multi-Millers
U. S. Automatic Press Room Equipment — U. S. Die Sets and Accessories

For more details circle NED-1148 D5 on enclosed inquiry slip



STANDARD OR SPECIAL GENERATORS

delivered promptly by COLUMBIA

A.C. GENERATORS	60 Cycles: 6¼ thru 875 KVA, 1800 to 360 RPM 50 Cycles: 3¾ thru 625 KVA, 1500 to 300 RPM
D.C. GENERATORS	2 thru 300 KW 1750 to 500 RPM Shunt or Compound Wound
SYNCHRONOUS MOTORS	20 HP thru 600 HP, 0.8 PF 20 HP thru 700 HP, 1.0 PF
MOTOR GENERATOR SETS	Standard Voltage: Induction or Synchronous, 3 thru 300 KW Low Voltage Plating Generators: 100 thru 20,000 Amperes, 6 volts and up

Write for Additional Information

COLUMBIA ELECTRIC MFG. CO.
6290-C1 4525 Hamilton Avenue • Cleveland 14, Ohio

For more details circle NED-1149 D5 on enclosed inquiry slip

New Processes & Materials

OIL-RESISTANT FLOOR MATS of neoprene afford comfort

Industrial and commercial Neo-Sponge comfort mat is produced by including millions of inert nitrogen bubbles in Du Pont neoprene. Designed for use at benches, machines and control stations where workers stand at job, mat is permanently resilient; affords electrical insulation up to 61,000 v; and is impervious to water, acid, oil, grease and heat. Molded tread design is on both sides so that mat is reversible. It is also nonslipping. Thicknesses of ¼ and ⅜-in. are available in standard sizes up to 36 in. wide by 10 ft long. Made by **American Floor Products Co.**, Dept. ND, 4922 Wisconsin Ave. N. W., Washington 16, D. C.

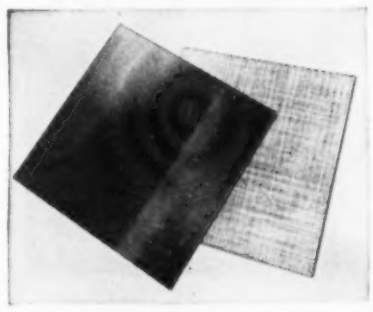
For more details circle NED-1150 D5 on enclosed inquiry slip

BULLETIN BOARD MATERIAL 48 and 72-in. wide resilient cork

Available in seamless boards as long as 85 ft, Armstrong Tackboard for bulletin board use is furnished in roll form in ¼ and ⅛-in. thicknesses and in 48 and 72-in. widths. The resilient cork composition is installed by using Armstrong J-1114 adhesive which will bond it to any clean, dry wall surface. Sage green, pueblo gray, cork tan and coral pastel colors are available. Material has a finely textured surface with relatively high light reflectance. Made by **Armstrong Cork Co.**, 1270 State St., Lancaster, Pa.

For more details circle NED-1151 D5 on enclosed inquiry slip

CUTTING PADS have two usable sides



Made of nondeteriorating composition material, Spearhead cutting pads have two usable sides, one with a smooth finish and one with a nonslip linen finish. Material can be installed on table tops, work benches, cutting blocks or drill presses for many types of cutting and trimming operations. Pads are available in 18 x 18-in. squares, ⅛-in. thick. Made by **Zimmerman Packing Co.**, Dept. D, 2768 Highland Ave., Cincinnati 12, O.

For more details circle NED-1152 D5 on enclosed inquiry slip

Takes cling out of oil and grease . . . emulsifies it . . . so that all dirt may be hosed off as easily as you rinse hands under water faucet.

Launders engines faster, more completely, and safer than steam cleaning (warm the engine). Self scouring action brings out factory new appebrance . . . provides accurate visual inspection . . . Gunked engines run cooler.

Get Genuine Gunk in quart and larger sizes at better wholesale auto suppliers throughout the country . . . Flatly refuse imitations.

CLEANS MACHINERY TOO

The CURRAN CORPORATION, Lawrence, Mass.

For more details circle NED-1153 D5 on enclosed inquiry slip

Complete production facilities for spur, helical, bevel and worm gears, worms, pinions and leadscrews—metallic, non-metallic—all sizes.

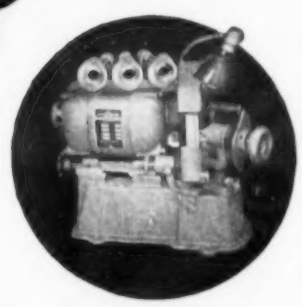
Greaves is geared for action . . . ready to get your order out right on time. Whether you order one or one thousand gears . . . there's no waiting . . . no worrying about delivery. This means less down time . . . more productive time . . . more profit time. Depend on Greaves for all your gear requirements.

WRITE OR WIRE US FOR ESTIMATE

GREAVES MACHINE TOOL CO.
2302 EASTERN AVENUE CINCINNATI 2, OHIO

For more details circle NED-1154 D5 on enclosed inquiry slip

STOP WASTING DRILLS!



Accurate Grinding reduces breakage, prolongs drill life!

FREE BOOKLET . . . shows how to prevent excessive drill breakage, vastly prolong drill life . . . and eliminate time wasted by valuable skilled mechanics grinding drills!

Black Diamond's "Positive Positioning" feature positions drill to exact twist you want . . . *automatically.* Now anyone can sharpen and web-thin with scientific accuracy . . . on a Black Diamond Drill Grinder! WRITE TODAY!

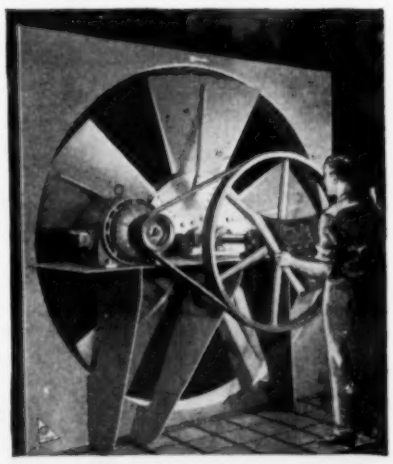
BLACK DIAMOND

SAW & MACHINE WORKS, INC. 72 NORTH AVE. NATICK, MASS.

For more details circle NED-1155 D5 on enclosed inquiry slip

WHAT "Buffalo" PROPELLER FANS OFFER YOU—

- Ease of installation—complete packages with motor drive
- Biggest range of sizes ever — 8" to 144" wheels (550 cfm to 250,000 cfm)
- Suitability for many new applications once requiring costlier fans
- Full choice of wheel designs and construction features to meet widely varying needs
- Performance that meets test codes of A.S.H.V.E., A.F.M., P.F.M.A. and U.S. Commercial Standard CS-178.
- *The "Buffalo" Q Factor—the built-in Quality that provides trouble-free satisfaction and long life.*



WRITE FOR BULLETIN FM-1234 on your company letterhead. It's an eye-opening report on the many new uses of this expanded, improved new line of fans!

"Buffalo" BUFFALO FORGE COMPANY
215 Mortimer St., Buffalo, N. Y.

PUBLISHERS OF "FAN ENGINEERING" HANDBOOK
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
Sales Representatives in all Principal Cities
INDUSTRIAL EXHAUSTERS • BELTED VENT SETS
PROPELLER FANS • "E" BLOWERS-EXHAUSTERS

For more details circle NED-1156 D5 on enclosed inquiry slip

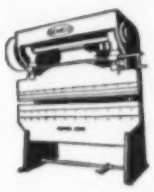
SEMCO PRESS BRAKES

For Every Sheet Metal Requirement

LARGE

Double geared and twin driven for balanced distribution of power.

SMALL



Features of this Press Brake, which are found only in more expensive presses are: Welded Steel Construction, 3" Stroke, Shut Height Full 12".

Send for NEW catalog illustrating newest models of Press Brakes and including Standard 90 Carbon Forged Steel Press Brake Dies.

SEMCO SERVICE MACHINE CO., INC.
ESTABLISHED 1919

202 Miller St., Elizabeth 4, N. J.

For more details circle NED-1157 D5 on enclosed inquiry slip

FOR HIGHER THAN AVERAGE PRESSURES OF AIR, WATER

HAMILTON VARI-PURPOSE Industrial HOSE

OIL, SUN AND ABRASION-RESISTANT COVER

Tough, abrasion-resistant cover inseparably bonded to a specially compounded, oil-resistant tube, reinforced with highest quality CORDURA braided rayon cord.

A single hose to handle almost any maintenance job. Tough, resilient, durable; will carry a wide range of materials. A general purpose hose of long life and low net cost.

Available in standard lengths. Red or black covers. Sizes ¼" to 1½" I.D. with working pressures 125-300 pounds. See your local distributor.

HAMILTON RUBBER MFG. CORP.

Executive Office and Factories, 103 Meade St., Trenton, N.J.

Be sure . . . use Hamilton . . . Always dependable!

For more details circle NED-1158 D5 on enclosed inquiry slip

GENERAL RADIO Company

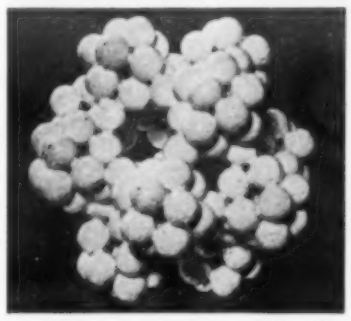
275 Massachusetts Avenue, Cambridge 39, Massachusetts, U.S.A.

90 West St. NEW YORK 6 8055 13th St., Silver Spring, Md. WASHINGTON, D.C. 920 South Michigan Ave. CHICAGO 5 1000 North Seward St. LOS ANGELES 38

For more details circle NED-1159 D5 on enclosed inquiry slip

New Processes & Materials

GAS-LIQUID ADSORBENTS for purifying and separation can be regenerated for reuse

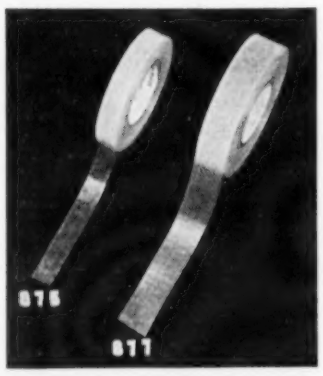


Man-made crystalline zeolites, called molecular sieves, are two selective adsorbents which provide industry with completely new basis for the separation and purification of mixtures of gases or liquids. They can separate mixtures of gases on basis of the difference in molecule size. These zeolite crystals have porous structure containing millions of cavities interconnected by series of pores of extremely uniform size, as model shows. Since adsorption takes place on interior surfaces of the cavities, only those molecules small enough to pass through the pores can be adsorbed.

Potential uses include drying of gases, drying and purification of liquids, and as a static desiccant in the packaging of materials subject to damage from rust or mildew. Molecular sieves show a marked affinity for both polar and unsaturated molecules, suggesting uses for reclaiming useful constituents of industrial waste gas. They are effective in high and low temperatures, and can be regenerated by combination of heating and purging. Developed by **Linde Air Products Co.**, Room 308-NED, 30 E. 42nd St., New York 17, N. Y.

For more details circle NED-1160 D5 on enclosed inquiry slip

REINFORCED TAPE is laminated glass fiber and plastic



Applicable to unlaminated reinforcing and sealing uses, two types of glass-reinforced polyethylene tapes are available in widths from ¼ to 21 in. in 72-yd rolls. Pressure-sensitive No. 875 tape has glass filaments sandwiched between the plastic backing and the adhesive. Tensile strength is 150 lb per in. of tape width. No. 877 is heat sealing and has filaments sandwiched between two layers of polyethylene to provide tensile strength of 100 lb per in. of width. It is activated by temperatures from 275 to 600° F, and adheres within 10 to 30 seconds under normal hand pressure. Made by **Minnesota Mining & Mfg. Co.**, Dept. NED, 900 Fauquier St., St. Paul 6, Minn.

For more details circle NED-1161 D5 on enclosed inquiry slip

. . . a feeding problem?

ARLIN CYBERNETIC CONTROL FLOOR HOPPER AUTOMATICALLY FEEDS PARTS AS NEEDED!

Arlin cybernetically controlled floor hoppers automatically feed a proper quantity of parts into successive equipment, usually one rotary hopper or a battery of machines. The flow of material is entirely controlled by the Arlin Cybernetic flow control. This electronic brain always measures the amount of material that is needed in the various hoppers which this floor hopper is feeding and makes the floor hoppers keep pace with the demand of parts at some other point in the plant. The electronic cybernetic control has the ability to think and is more than just a micro switch activated device or a contact acclimated device.

Arlin PRODUCTS, INC.
13541 AUBURN • DETROIT, MICHIGAN

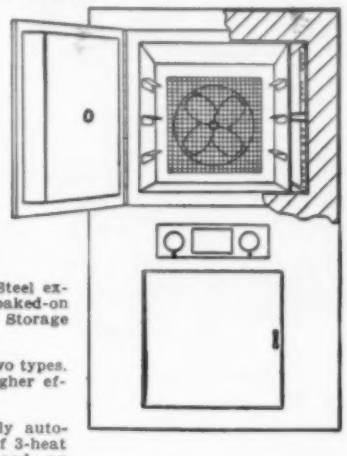
For more details circle NED-1162 D5 on enclosed inquiry slip

SPECIAL HIGH TEMPERATURE AIR RECIRCULATING OVEN

Maximum operating temperature — 1200°F
Work chamber — 24" x 24" x 24"

EXTERIOR SIZE: 40" W. x 68" H. x 42" D.

APPLICATIONS: Glass annealing. Annealing and Drawing Ferrous and Non-Ferrous parts. Curing and drying of high temperature plastics. Testing engine parts under simulated operating conditions.



CONSTRUCTION: Stainless steel interior. Steel exterior finished in baked-on wrinkle, black enamel. Storage cabinet built into base.

INSULATION: 6" of two types. Lower heat losses and higher efficiency.

CONTROLS: Completely automatic, including a pair of 3-heat switches, pilot lights, and an automatic controller Pyrometer.

Submit YOUR special oven or furnace problem to our engineers.

THE ELECTRIC Hotpack COMPANY, Inc.
5063 COTTMAN STREET, PHILADELPHIA 35, PA.

For more details circle NED-1163 D5 on enclosed inquiry slip

available from stock for IMMEDIATE delivery

acrylic rods and tubes

SIZES AVAILABLE

RODS

1/8"	9/16"
3/16"	5/8"
1/4"	3/4"
5/16"	7/8"
3/8"	1"
7/16"	1-1/8"
1/2"	1-1/4"

TUBES

1/16" wall	1/8" wall
1/4" O.D.	1/2" O.D.
5/16" "	5/8" "
3/8" "	3/4" "
1/2" "	7/8" "
5/8" "	1" "
3/4" "	1-1/4" "
7/8" "	1-1/2" "
1" "	1-3/4" "
1-1/4" "	2" "

Special sizes to order

CLEAR CRYSTAL METHYL METHACRYLATE—Rods and tubes for industrial, novelty, display, models, and all other fields.

Write for price lists and samples today.

ACE PLASTIC COMPANY
Precision Extruders and Fabricators

91-28 Van Wyck Expressway
Jamaica 35, N. Y.

For more details circle NED-1164 D5 on enclosed inquiry slip

2 REASONS WHY

STA-PUT

CUTS COSTS TWO WAYS

1

Sta-Put cuts lubricant costs because you use less oil—less often. Houghton's exclusive polymerization process gives Sta-Put higher cohesion and adhesion—lubricant won't drip or creep away—sticks to metal.

2

Sta-Put cuts maintenance costs because of higher film strength. Metal to-metal contact is prevented by two to three times the load carrying ability of untreated oils—seizure is prevented—longer parts life assured.

No fillers or soaps are used in Sta-Put—the first non-drip oil. Properties are "locked in"—won't filter out, clog or gum. Ask your Houghton Man about Sta-Put Lubricants or write for bulletin. E. F. Houghton & Co., 303 West Lehigh Avenue, Philadelphia 33, Pa.

STA-PUT . . . a product of

E. F. HOUGHTON & CO.
PHILADELPHIA · CHICAGO · DETROIT · SAN FRANCISCO

Ready to give you on-the-job service . . .

For more details circle NED-1165 D5 on enclosed inquiry slip

Why pay more?

Specify the RACK

TURNABOUT®

ADJUST-A-FORK

HYDRAULIC LIFT TRUCK

only $350 for complete truck

with interchangeable forks

featuring Overload Safety Valve!

The low cost, high quality Turnabout will save you many dollars in your pallet handling operations. Interchangeable forks supplied in five standard lengths — 30", 36", 40", 42" and 48". Also available in 54" and 60" lengths, if desired. Capacity: 2,500 lbs.

Write for Bulletin today!

RACK Hydraulic Equipment Corp.

168 Sixth St., Connellsville, Pa.

For more details circle NED-1166 D5 on enclosed inquiry slip

GAIN

PATTERN 6-WL SHOWN

★ Lower Costs

★ Increased Strength

★ Improved Appearance

★ Reduced Maintenance

with

RIGID-tex

the Designed-Strengthened Metal

40 Striking Designs Available

See SWEETS Design File 1a/Ri or write us for more information.

RIGIDIZED METALS CORPORATION

7174 OHIO STREET • BUFFALO 3, N. Y.

Sales Representatives in Principal Cities

For more details circle NED-1167 D5 on enclosed inquiry slip

LINEMASTER

CADET

FOOT

SWITCH

responds to pressure from any angle!

SMALL... BUT A "GIANT" FOR EFFICIENCY!

Lightweight, compact, rugged... CADET is Linemaster's new "little giant" in foot switches. The slightest foot pressure on the actuating cap from any angle puts the switch in operation—gives the operator better control of work. Heavy steel housing and indestructible plastic cap, only 3⅝" diameter, 1⅛" high, with non-skid sponge rubber base to assure perfect positioning always. With heavy-duty 6 ft. rubber cord. $4.50

Let us quote on your special switch requirements.

LINEMASTER SWITCH CORP.

42[illegible] Woodstock Terrace • Woodstock, Conn.

Write today for catalog and price list

For more details circle NED-1168 D5 on enclosed inquiry slip

New Processes & Materials

CALKING COMPOUND
contains aluminum flake pigment

Alcoa aluminum pigment particles in Aluminum Handi - Calk arrange themselves in parallel layers and leaf out to form an aluminum colored surface. This surface layer reflects the chemically active rays of the sun to retard oxidation, and the other pigment layers exclude air and moisture. This slows the drying out of the calk and keeps it elastic and fresh. It is marketed in cartridge form with plastic nozzle to fill cracks, seal windows and frames, and similar applications. Made by **Gibson-Homans Co.**, 2346 Woodhill Rd., Cleveland 6, O.

For more details circle NED-1169 D5 on enclosed inquiry slip

RUSTPROOFING OILS
protect internal metal surfaces

Protective properties of inhibited oils plus those of oil-soluble volatile rust inhibitors are combined in Nucle-oils, a series of rustproofing products. Developed for two-phase protection of internal metal surfaces in closed or semiclosed systems, oils are produced in a wide range of viscosities. Normally, unless systems are filled with oil, coatings on vertical surfaces above oil level drain down, permitting rust to develop. Nucle-oils with their volatile rust inhibitors protect the surface above oil level. Made by **Daubert Chemical Co.**, Dept. NED, 333 N. Michigan Ave., Chicago 1, Ill.

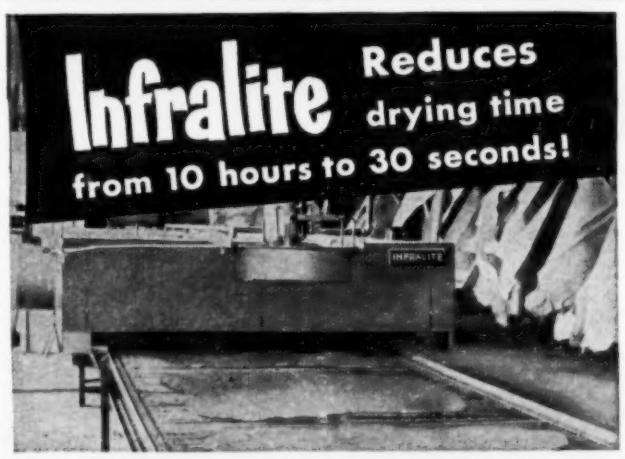
For more details circle NED-1170 D5 on enclosed inquiry slip

INVISIBLE WINDOW COATING
stops hot rays, reduces glare, fade

Applied directly on the window and in effect becoming part of the glass itself, Sun-Shield plastic window coating offers protection against sun fade, heat and glare. The invisible transparent coating withstands heat and cold without cracking, checking or lifting. It is available in several tints and obviates need for shades, blinds or curtains. Application is with spray or flow equipment, latter usable by unskilled personnel with a half hour of practice. Coating made by **Trans-World Corp.**, Dept. S.S.N., 1707 N. Alexandria Ave., Los Angeles 27, Calif.

For more details circle NED-1171 D5 on enclosed inquiry slip

Infralite Reduces drying time from 10 hours to 30 seconds!



Another outstanding example for INFRALITE Radiant Heating Lamps is this installation at a leading leather manufacturers plant. This was accomplished by the use of only fifteen 3000 watt radiant heating lamps.

If your problem involves—

• DRYING INKS, POWDERS, PAINTS ETC. • CURING PLASTICS • BAKING VARNISH • PASTEURIZING METALS or any of hundreds of other applications

AND IF YOU NOW USE—

AIR DRYING—GAS, OIL OR ELECTRIC HEAT

You will be amazed by the increased quality control and big savings in money, time and labor when you use INFRALITE RADIANT HEAT.

WITHOUT OBLIGATION— Ask our Representative to call, or Write for Bulletin 55.

N. J. THERMEX COMPANY, INC.

537 Bergen Street, Harrison, N. J. Hu 5-2323

For more details circle NED-1172 D5 on enclosed inquiry slip

3,183,623 LBS.

SPEED PATCH

PURCHASED BY SIX CUSTOMERS

ONE CUSTOMER HAS PURCHASED 1,519,578 POUNDS

FIVE ADDITIONAL CUSTOMERS HAVE PURCHASED A TOTAL OF 1,664,045 POUNDS

Proved THE WORLD'S FINEST, FASTEST FLOOR FIXER

ORDER TODAY!

READY MIXED • NO WAITING • TRUCK OVER EACH PATCH AT ONCE

ORDER TODAY!

REK-TRED Corporation

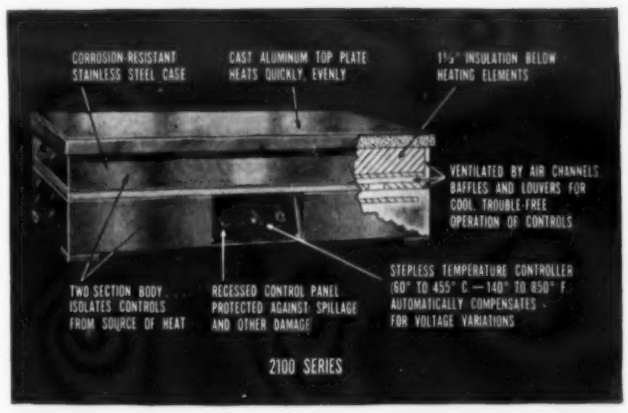
Manufacturers of a Complete Line of Building Maintenance Materials

7440-7450 North St. Louis Avenue • Skokie, Illinois

For more details circle NED-1173 D5 on enclosed inquiry slip

CLOSELY CONTROLLED HEATING

. . . with fast-heating, versatile TEMCO Hot Plates for boiling, evaporations, etc.



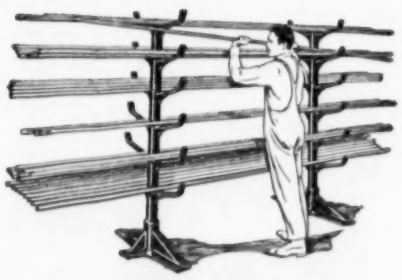
Here's the Hot Plate that processes your work precisely! *Completely variable* regulation of temperature between 60° and 455° C. (140° to 850° F.). Built-in controls hold temperature to extremely close limits, without variations due to line voltage changes. Economical to operate . . . current is "on" only half of the time to hold 260° C. (500° F.). Scientifically designed throughout to meet strict functional requirements. Two sizes: 12" × 12", 1300 Watts, and 12" × 24", 2600 Watts . . . both 7" high. $65 and $85. Write for literature and name of nearest dealer.

TEMCO® HOT PLATES

THERMO ELECTRIC MFG. CO., 484 HUFF ST., DUBUQUE, IA.

For more details circle NED-1174 D5 on enclosed inquiry slip

for EFFICIENT HANDLING and ORDERLY STORAGE



You save time, both in storing and in issuing, when you use Brown Sectional Racks. Open sides speed handling. Complete visibility permits quick selection to save mechanics' waiting time.

Maximum flexibility in arrangement is possible because each Brown Rack is independent and self-contained, need not be bolted to floor. Easily relocated. Systemized storage with Brown Racks promotes good housekeeping, cleanliness.

All iron and steel construction, can't burn, bend, sag or warp. Never wear out.

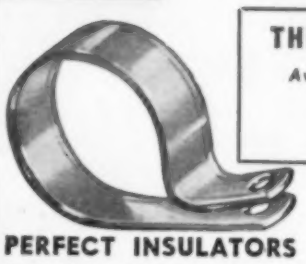
Get these values now! Write for complete specifications and prices on wide range of models and sizes. Brown Engineering Co. 129 N. Third St., Reading, Pa.

BROWN QUICK-SERVE RACKS

For more details circle NED-1175 D5 on enclosed inquiry slip

PLASTIC CLAMPS

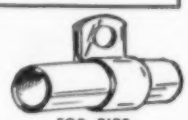
TRADE MARK REG



THE COMPLETE LINE!

Available in . . .
- Ethyl Cellulose
- Nylon and Saran

Millions in Use!



FOR PIPE

FOR GROUP WIRE

FOR SINGLE WIRE

PERFECT INSULATORS

Available in size range from ⅛" to 3"—in 46 stock items. Open easily—slide over wires, cables, pipes, tubes, etc. Light in weight, tough and durable over wide temperature range. Non-corroding—non-sweating. Rounded edge prevents cutting.

Now! Hi PLASTIC STRAPS

Available in two sizes for non-metallic cable . . . your choice of black or ivory color in both sizes. Rust and corrosion resistant—no insulation cutting—greater safety. Complies with REA. New ivory color perfect for NMC—UF cable.

WRITE FOR FREE SAMPLE PACKET

HOLUB INDUSTRIES, INC.

449 ELM ST • SYCAMORE, ILLINOIS

▲ For more details circle **NED-1176 D5** on enclosed inquiry slip ▲

FAST MARKING

OF DELICATE PARTS WITH THE MATTHEWS "Airgrit"

Quick, yet gentle blast produces the finest, permanently etched marks on smooth-finished (even the most delicate) parts. Write for literature . . . "AIRGRIT" Marking.

JAS. H. MATTHEWS & CO.

3943 FORBES ST. PITTSBURGH 13, PA.

BOSTON • CHICAGO • PHILADELPHIA • CLIFTON, N. J.

▲ For more details circle **NED-1177 D5** on enclosed inquiry slip ▲

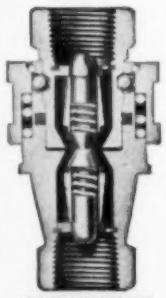
HANSEN

Quick-Connective

TWO-WAY SHUT-OFF COUPLINGS

Female pipe thread connections from ⅛" to 1"

Both ends of line are positively sealed when you disconnect a Hansen Series HK Two-Way Shut-Off Coupling. To connect, just pull back sleeve and push Plug into Socket. To disconnect, merely pull back sleeve. No tools required. Identical valves in Socket and Plug permit free flow of gas or liquid when Coupling is connected—practically eliminate spilling of liquid or escape of gas when disconnected. Available in brass or steel.



SERIES 4-HK TWO-WAY SHUT-OFF COUPLING

Also Straight-Through and One-Way Shut-Off Couplings. Write for catalog.

THE HANSEN MANUFACTURING COMPANY

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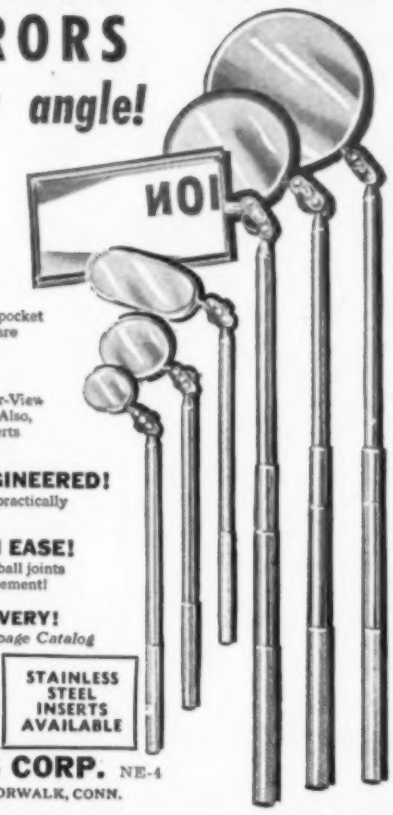

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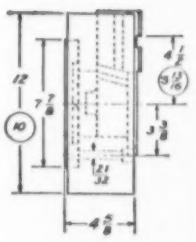

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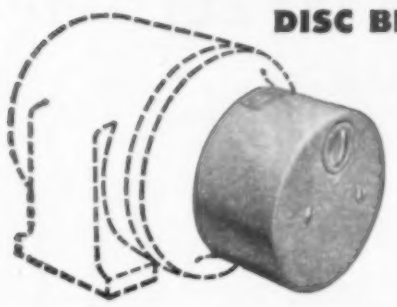

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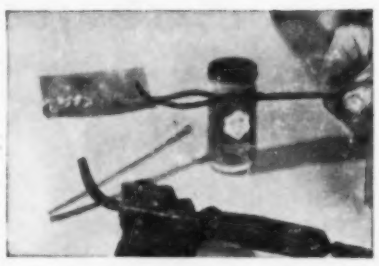

New liquid aluminum soldering flux makes possible sweating on aluminum, stainless steel, monel, copper, brass, steel, or any combinations of same. The newly developed liquid chemical actually breaks the surface oxide on all types of aluminum so that a sweat job is possible in the same manner as ordinary flux on the common metals. Called Liquid ASMC Flux it makes possible the soldering together of such dissimilar metals as stainless steel to aluminum or any combinations of the above metals to aluminum or each other. When used in combination with Farrelloy All Metal Solder the Flux eliminates the electrolytic action between dissimilar metals so that a permanent bond, highly resistant to corrosion is obtained. ASMC Flux makes possible the use of induction heat as well as torch or iron. Production jobs using induction heat are now being accomplished putting two brass studs on Aluminum Name Plates at the rate of 250 per hour. Same flux when used with Farrelloy Solder is equally effective on filling in blow holes in aluminum castings, sweating name plates on cast iron, and many other jobs. ASMC Flux is priced at $3.50 per pound, fob Philadelphia. Farrelloy Solder $2.00 per pound, fob Philadelphia (14 bars to the pound). Write **Farrelloy Company, Dept. NED,** 1246 North 26th St., Philadelphia 21, Pa. *Advt.*

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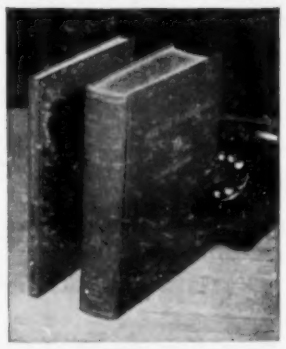

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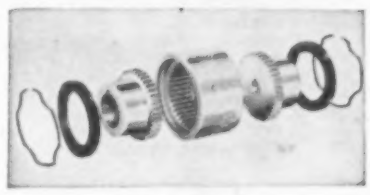

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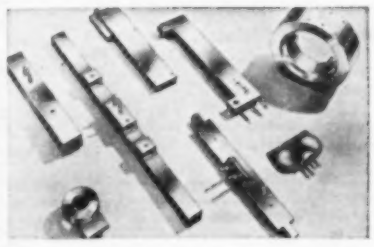
For more details circle NED-1185 D5 on enclosed inquiry slip

CAST ELECTRIC HEATERS used for sealing machine bars



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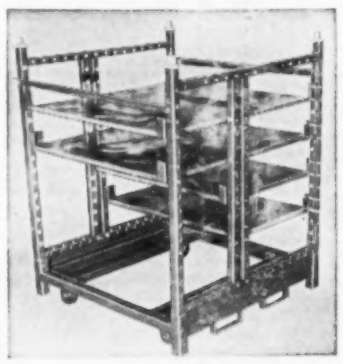

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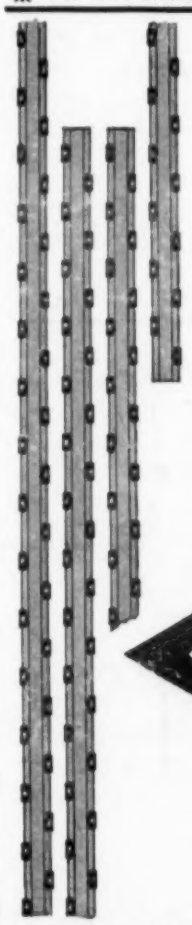

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